**PUBLIC DRAFT**

# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE OTAY WATER DISTRICT 870-2 PUMP STATION

**PREPARED FOR:**

Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978

**PREPARED BY:**

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**September 2016**

ICF International. 2016. Initial Study/Mitigated Negative Declaration for the Otay Water District 870-2 Pump Station. Public Draft. September. (ICF 669.13.) San Diego, CA. Prepared for Otay Water District, Spring Valley, CA.

# Contents

List of Tables and Figures ..... iii
List of Acronyms and Abbreviations ..... iv

**Page**

**Chapter 1 Project Description ..... 1-1**
1.1 Introduction ..... 1-1
1.2 Project Location, Site Description, and Surrounding Land Uses ..... 1-1
1.3 Project Description ..... 1-2
1.3.1 Pump Station 870-2 Features ..... 1-2
1.3.2 Sewer Lift Station and Force Main ..... 1-4
1.3.3 Proposed Access Roads ..... 1-4
1.3.4 Proposed Construction Phasing ..... 1-5
1.3.5 Proposed Site Grading ..... 1-5
1.3.6 Proposed Demolition ..... 1-5
1.4 Authority to Prepare a Mitigated Negative Declaration ..... 1-6
1.5 Preparers of the Mitigated Negative Declaration ..... 1-6
1.6 Results of Public Review ..... 1-7
1.7 Approvals Required ..... 1-7
**Chapter 2 Determination ..... 2-1**
2.1 Mitigation Measures ..... 2-1
2.1.1 Biological Resources ..... 2-1
2.1.2 Cultural Resources ..... 2-2
2.1.3 Geology and Soils ..... 2-3
**Chapter 3 Initial Study/Environmental Checklist Form ..... 3-1**
3.1 Environmental Factors Potentially Affected ..... 3-2
3.2 Determination ..... 3-2
3.3 Evaluation of Environmental Impacts ..... 3-3
**Chapter 4 References ..... 4-1**

**Appendices**

A Air Emissions Calculations for Pump Station 870-2, ICF International, September 2016

B Biological Resources Technical Report for Otay Mesa Conveyance and Disinfection System Project, AECOM, October 2013

C Cultural Resources Assessment for Otay Mesa Conveyance and Disinfection System Project, Atkins, September 2013 (CONFIDENTIAL)

D Phase I Environmental Site Assessment for Pump Station 870-2, Southern California Soil & Testing, Inc., November 2013

# Tables and Figures

**Table** **Page**
1 Estimated Construction Criteria Pollutant Emissions....3-13
2 Estimated Operational Criteria Pollutant Emissions....3-13
3 Estimated Construction and Operational GHG Emissions....3-30
4 County of San Diego General Noise Standards....3-45
5 Summary of Construction Noise Analyses....3-46
6 FTA Criteria for Potential Building Damage Due to Groundborne Vibration....3-48

**Figure** **Follows Page**
1 Regional Vicinity Map.... 1-1
2 Existing Aerial and District Boundary.... 1-1
3 Existing Infrastructure.... 1-1
4 Low Head Pump Station and High Head Pump Station.... 1-1
5 Proposed Location and Siting.... 1-1
6 Proposed Site Layout and Infrastructure.... 1-2
7 Phase 1 Plan.... 1-2
8 Phase 2 Plan.... 1-2
9 Proposed Pump Station Section.... 1-2
10 Approximate Alignment of Proposed Sewer Force Main.... 1-4
11 Sewer Lift Station Section.... 1-4
12 Existing Conditions at Proposed Culvert Area.... 1-4
13 Demolition Plan.... 1-5
14 Sensitive Species....3-17
15 Vegetation Communities....3-18
16 Zoning and General Plan Designation....3-40

# Acronyms and Abbreviations

| | |
|---|---|
| ADTs | average daily trips |
| APE | area of potential effect |
| AQIA | Air Quality Impact Analysis |
| BMPs | best management practices |
| CAAQS | California Ambient Air Quality Standards |
| CAGN | coastal California gnatcatcher |
| CalEEMod | California Emissions Estimator Model |
| CARB | California Air Resources Board |
| CDC | California Department of Conservation |
| CEQA | California Environmental Quality Act |
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | CO2-equivalent |
| CUPA | Certified Unified Program Agency |
| cy | cubic yards |
| CDFW | California Department of Fish and Wildlife |
| District | Otay Water District |
| DOT | U.S. Department of Transportation |
| DPM | Diesel Particulate Matter |
| EPA | U.S. Environmental Protection Agency |
| ESA | Environmental Site Assessment |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FMMP | Farmland Mapping and Monitoring Program |
| FTA | Federal Transit Administration |
| GHG | greenhouse gas |
| HHPS | High Head Pump Station |
| HMA | Habitat Management Area |
| HMBP | Hazardous Materials Business Plan |
| hp | horsepower |
| I- | Interstate |
| IS | Initial Study |
| kW | kilowatt |
| LBV | least Bell's vireo |
| Leq | average noise level |
| LHPS | Low Head Pump Station |
| MBTA | Federal Migratory Bird Treaty Act |
| ME | Medical Examiner's |
| mgd | million gallons per day |
| MLD | Most Likely Descendent |
| MND | Mitigated Negative Declaration |
| MRZ | Mineral Resource Zone |

| | |
|---|---|
| MSCP | San Diego County Multiple Species Conservation Program |
| $MTCO_2e$ | metric ton carbon dioxide equivalent |
| $N_2O$ | nitrogen dioxide |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NFPA | National Fire Protection Association |
| $NO_X$ | nitrous oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NSLU | Noise-Sensitive Land Use |
| $O_3$ | ozone |
| OMCDSP | Otay Mesa Conveyance and Disinfection System Project |
| PDR | Preliminary Design Report |
| PI | Principal Investigator |
| PLC | Programmable Logic Controller |
| PLWTP | Point Loma Wastewater Treatment Plant |
| PM10 | particulate matter less than 10 microns |
| PM2.5 | particulate matter less than 2.5 microns |
| PPV | peak particle velocity |
| RAQS | San Diego Regional Air Quality Strategy |
| RCRA | Resource Conservation and Recovery Act of 1976, as amended in 1984 |
| ROG | reactive organic gas |
| RVSS | reduced-voltage solid-state starters |
| RWQCB | Regional Water Quality Control Board |
| SANDAG | San Diego Association of Governments |
| SCADA | supervisory control and data acquisition |
| SCIC | South Coastal Information Center |
| SDAB | San Diego Air Basin |
| SDAPCD | San Diego Air Pollution Control District |
| SDG&E | San Diego Gas and Electric |
| SIP | State Implementation Plan |
| SMARA | Surface Mining Reclamation Act of 1975 |
| $SO_X$ | sulfur oxides |
| SR- | State Route |
| SUSMP | Standard Urban Stormwater Mitigation Plan |
| SWMP | Stormwater Management Plan |
| SWPPP | Stormwater Pollution Prevention Plan |
| USACE | U.S. Army Corps of Engineers |
| USFWS | U.S. Fish and Wildlife Service |
| w/w | weight-in-weight |
| Williamson Act | California Land Conservation Act of 1975 |
| WPO | Watershed Protection, Stormwater Management, and Discharge Control Ordinance |

Chapter 1
# Project Description

## 1.1 Introduction

The Otay Water District (District) is proposing to construct and operate a new pump station (870-2 Pump Station) and associated sewer force main alignment that would replace the existing Low Head Pump Station (LHPS; 571-1 Pump Station) and High Head Pump Station (HHPS; 870-1 Pump Station). Both the LHPS and HHPS have reached the end of their useful lives. The existing pump stations pump water from the Roll Reservoir (570 Zone Reservoir) to different hydraulic zones to maintain water supply within these zones. The new 870-2 Pump Station would pump to the two hydraulic zones currently supplied by the LHPS and HHPS, the 570 zone and the 870 zone. Additionally, these existing pump stations have insufficient capacity for the desalinated water supply that would be introduced to the Roll Reservoir if the District's proposed Otay Mesa Conveyance and Disinfection System Project (OMCDSP) is implemented.[1] The 870-2 pump station, sewer force main, site plan, and associated yard piping would be coordinated with the proposed desalination facilities project to ensure conflicts are avoided.

## 1.2 Project Location, Site Description, and Surrounding Land Uses

The proposed pump station site is located on District-owned land approximately 175 feet south of the District's Roll Reservoir site in the unincorporated San Diego County community of Otay Mesa. Elevation at the site is approximately 557 feet above sea level. The site's regional location is shown in Figure 1.

The site proposed for the new pump station and the associated sewer force main alignment is an undeveloped area characterized by undulating terrain with native and nonnative vegetation. Dirt access roads extend through the proposed pump station site and sewer line alignment. Access to the site is provided via a southern partially paved road taken at Alta Road, which is approximately 700 feet to the south of the proposed pump station site. The site is located near the East Mesa Detention Facility, approximately 550 feet to the east and northeast of the gun firing range. A San Diego Gas and Electric (SDG&E) transmission line extends to the southwest of the site. Vacant land and dirt access roads immediately surround the pump station site. Figure 2 provides an aerial of the existing conditions at the site. The existing infrastructure is shown in Figure 3. Figure 4 shows the existing LHPS and HHPS. Figure 5 shows the proposed siting of the pump station.

[1] The OMCDSP consists of a new potable water supply source from the planned Rosarito Desalination Facility in Mexico and a pipeline terminating at the Roll Reservoir (870-1 Reservoir) site.

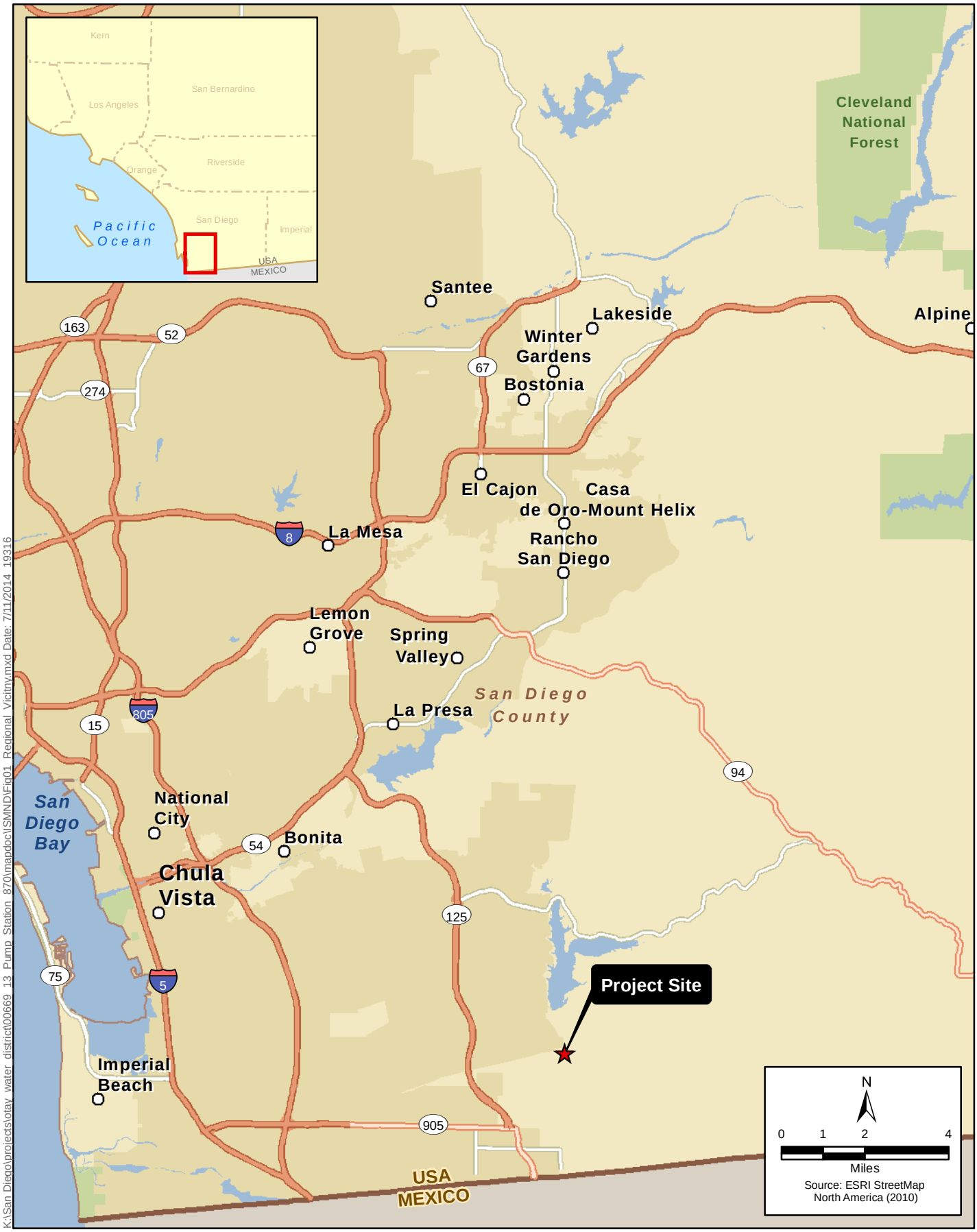


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**Figure 1**
**Regional Vicinity Map**
**Otay Water District Pump Station 870-2**

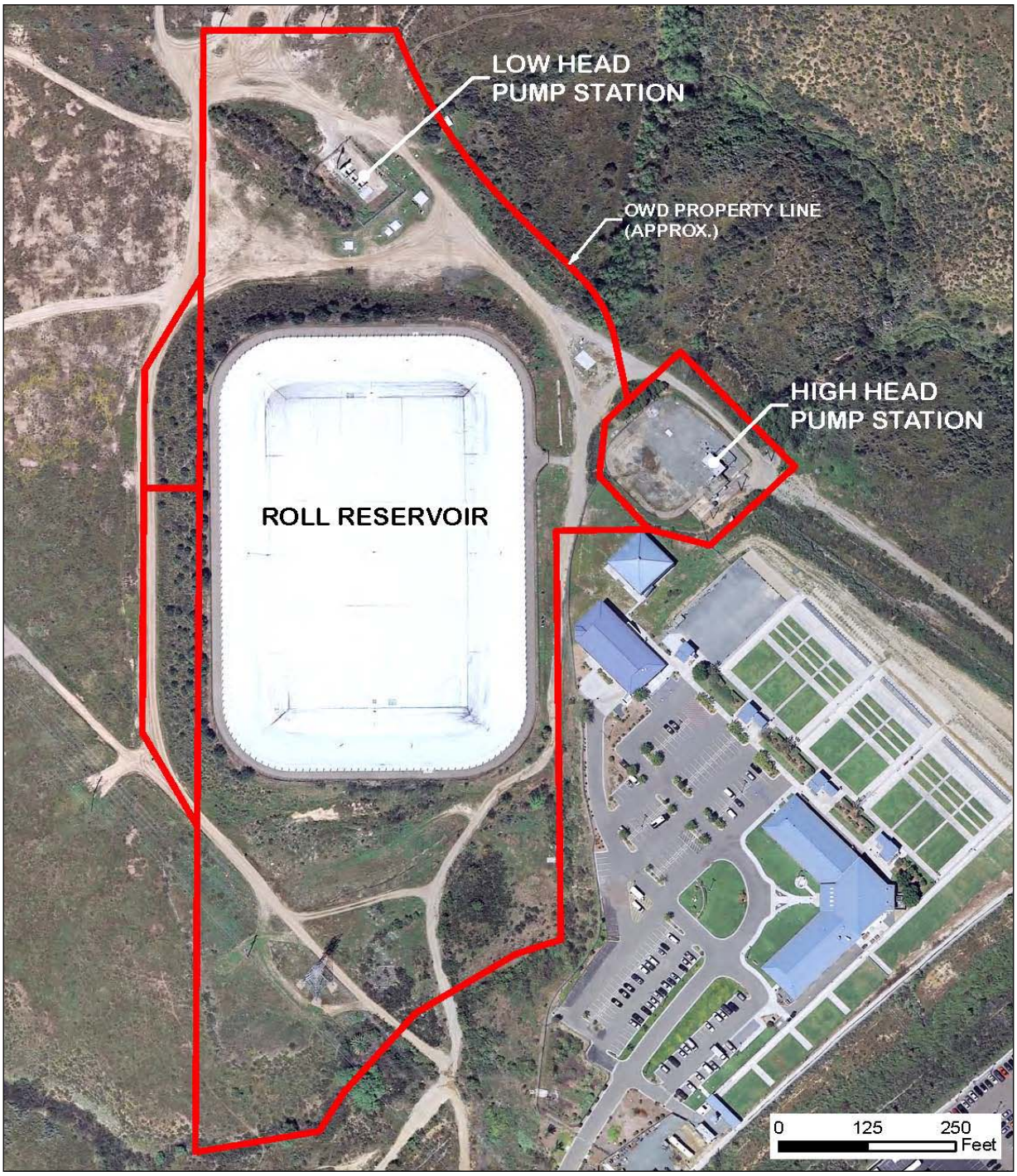


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**Figure 2**
**Existing Aerial and District Boundary**
**Otay Water District Pump Station 870-2**

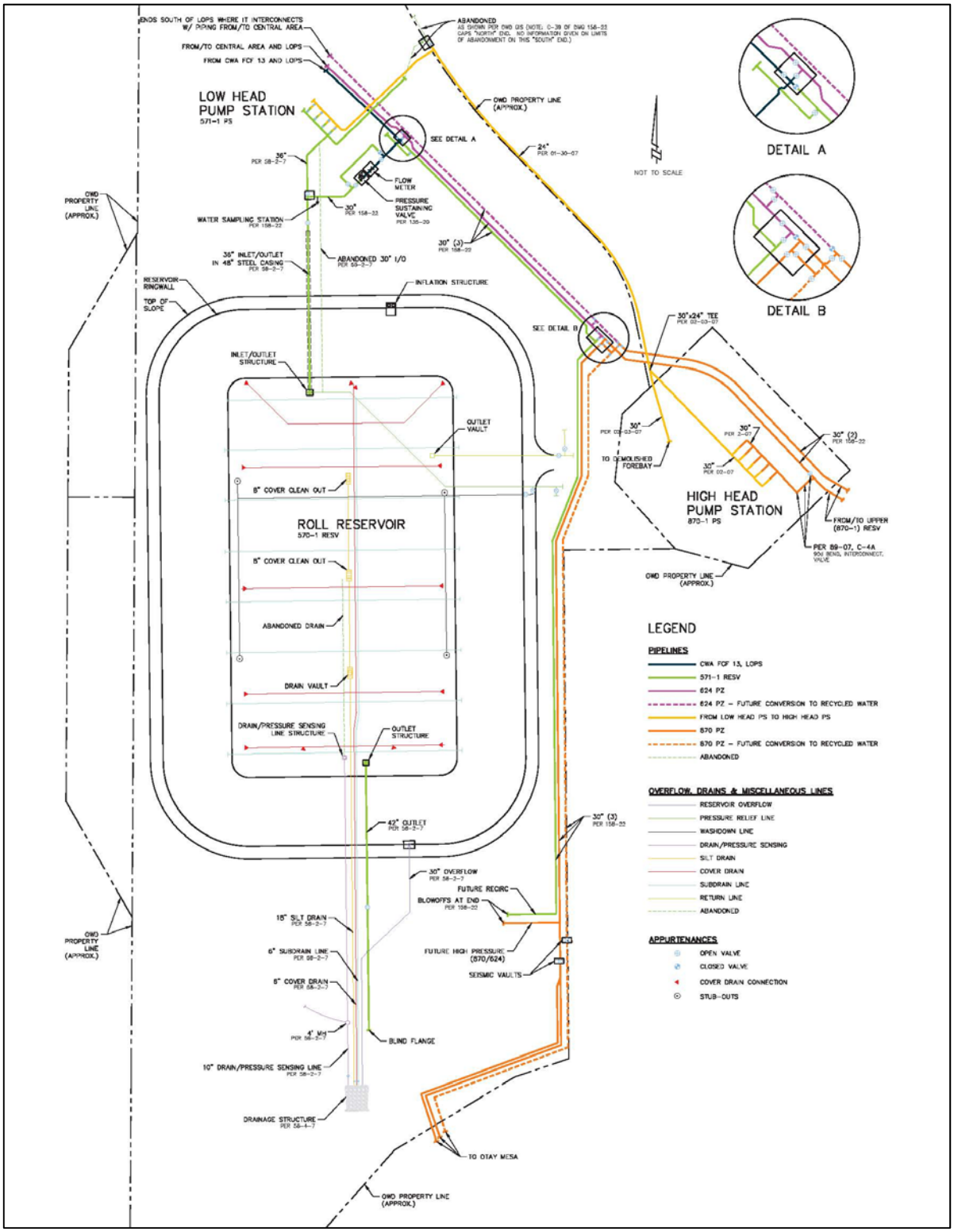


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**Figure 3**
**Existing Infrastructure**
**Otay Water District Pump Station 870-2**

**Existing Low Head Pump Station**

**High Head Pump Station**

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**Figure 4**
**Low Head Pump Station and High Head Pump Station**
**Otay Water District Pump Station 870-2**

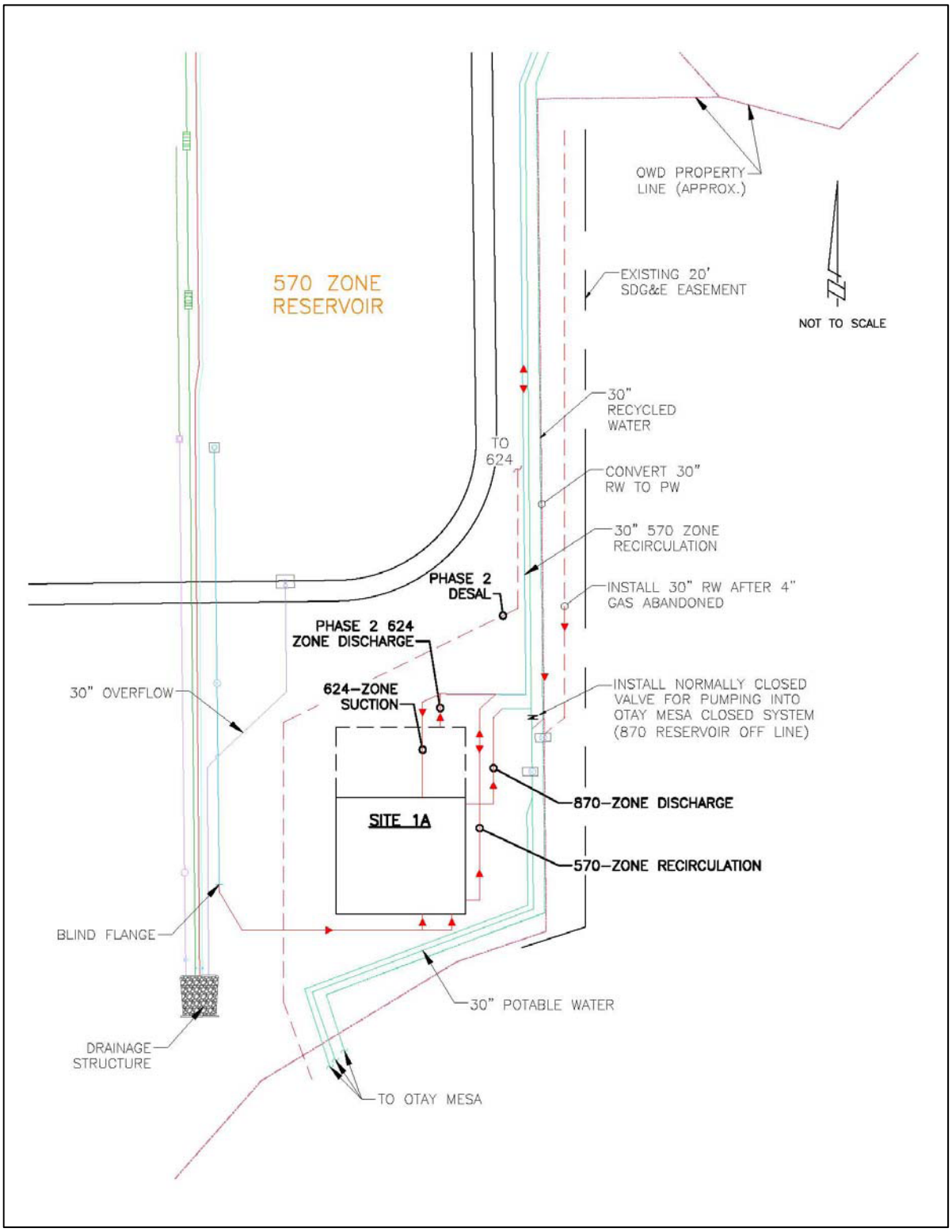


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**Figure 5**
**Proposed Location and Siting**
**Otay Water District Pump Station 870-2**

# 1.3 Project Description

## 1.3.1 Pump Station 870-2 Features

### 1.3.1.1 Pump Station Layout

The pump station layout includes the recirculation system flow meter, disinfection sampling, and dosing points and static mixer inside the pump station to avoid outside vaults that require confined space entry for operations, maintenance, and repairs. In addition, a restroom with a single sink and toilet would be provided for OWD staff. Figure 6 shows site layout and piping for the proposed pump station.

Suction and discharge flow meters would be in below-grade vaults within the project site. The removal of all pumps would be through covered removable roof openings. All other equipment in the pump room, including electric pump motors, could be removed with a bridge crane.

The proposed pump station conceptual layout allows for phased construction beginning with installation of pumps that would supply water from the 570 hydraulic zone to the 870 hydraulic zone and two recirculation pumps to maintain water quality in the Roll Reservoir. Phase 2, which would only occur if determined necessary for the OMCDSP, would consist of the installation of pumps that would convey water from the 570 hydraulic zone to the 624 hydraulic zone. Figure 7 shows the conceptual Phase 1 pump station plan. Figure 8 shows the conceptual Phase 2 pump station plan. Figure 9 shows the proposed pump station section.

### 1.3.1.2 Instrumentation and Controls

The proposed project would include preliminary status, alarms, and position signals. Some examples include pressure monitors, flow rate monitors, chemical monitors, temperature alarms, and start/stop commands. A complete list is provided in the project's Preliminary Design Report (PDR).

### 1.3.1.3 Chloramines Booster Facilities

Chloramines booster facilities would be included as part of the pump station building. The facilities would include a 12.5% weight-in-weight (w/w) sodium hypochlorite storage and metering system and a 19% w/w aqueous ammonia storage and dosing system.

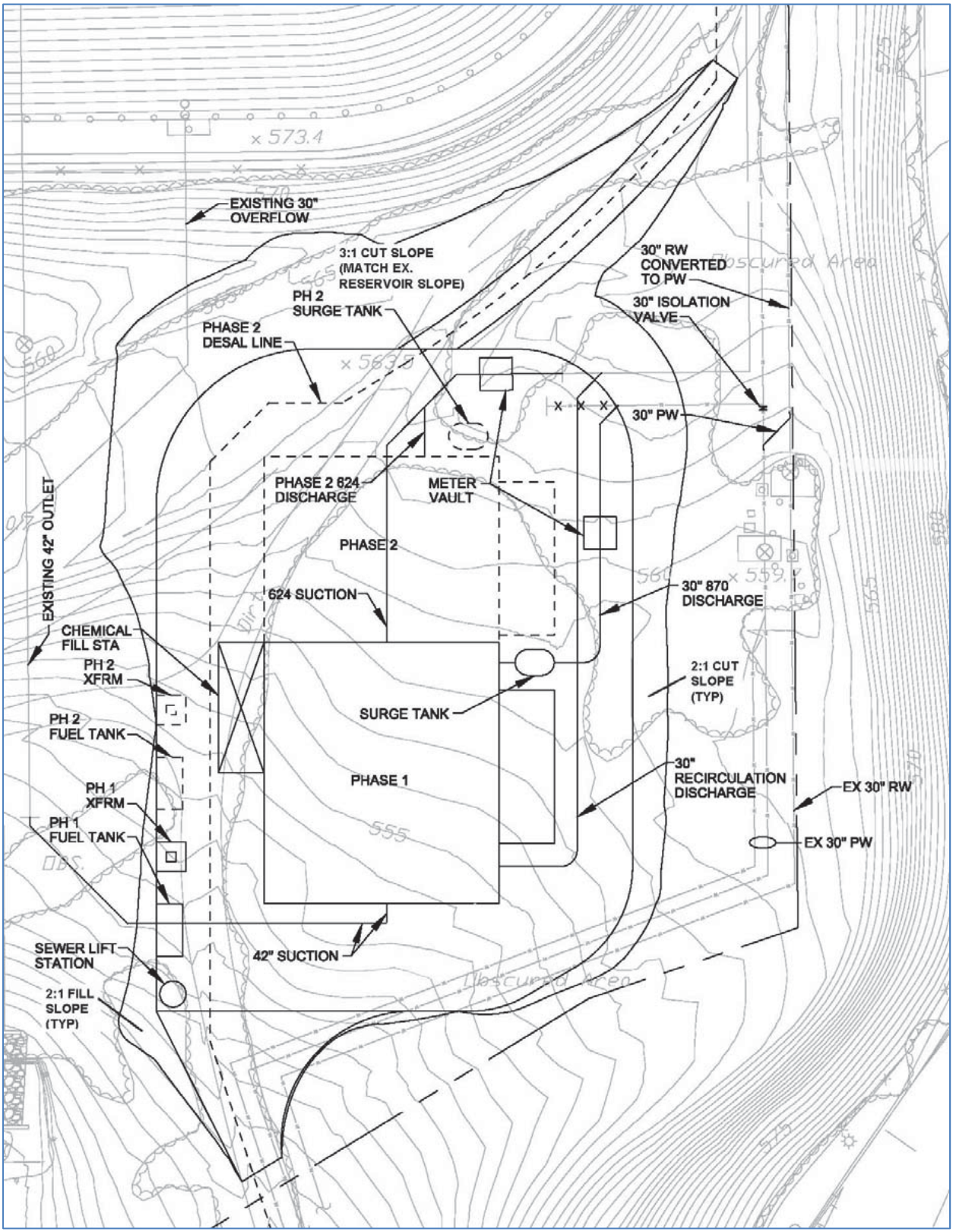


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**Figure 6**
**Proposed Site Layout and Infrastructure**
**Otay Water District Pump Station 870-2**

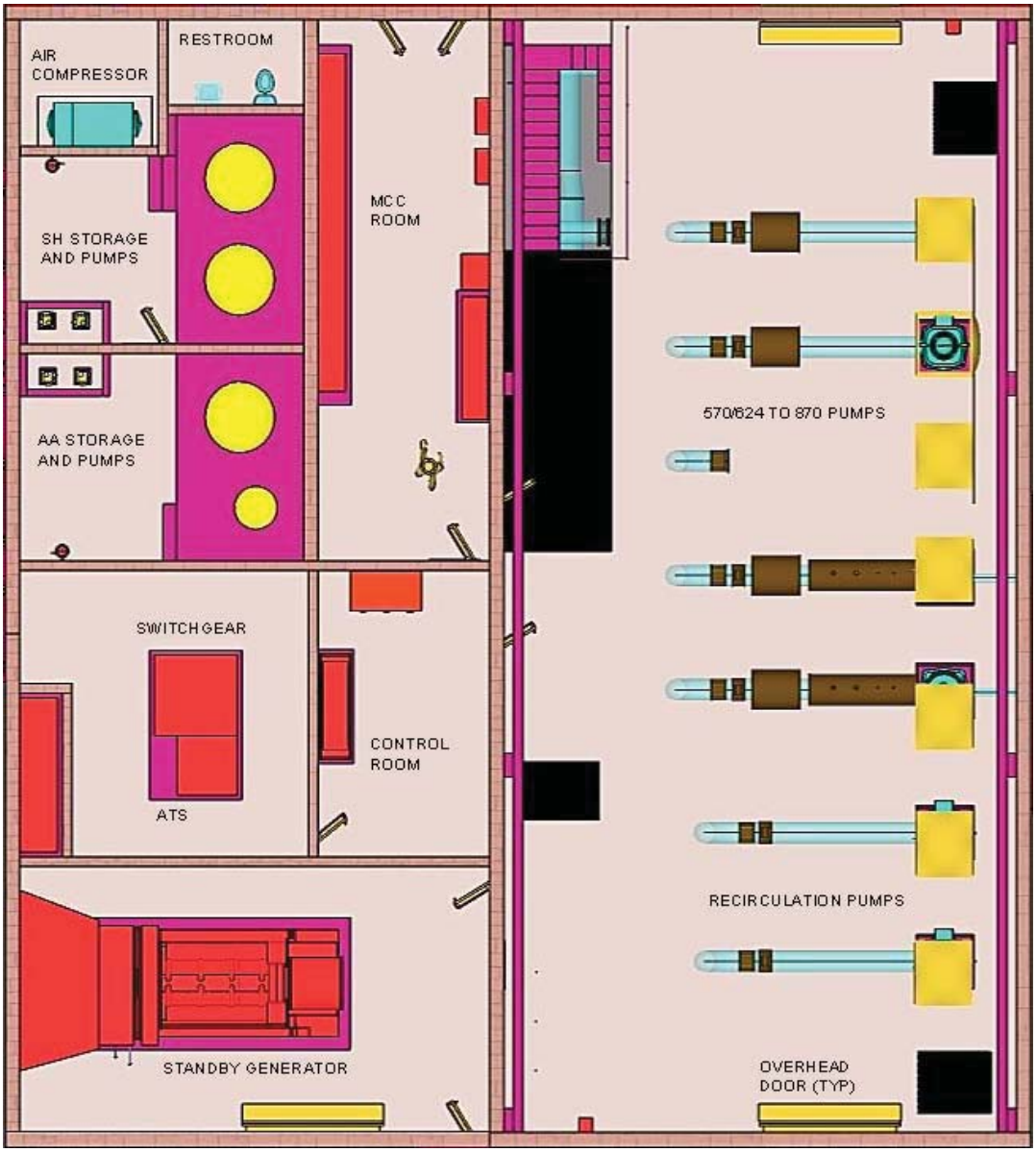


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**Figure 7**
**Phase 1 Plan**
**Otay Water District Pump Station 870-2**

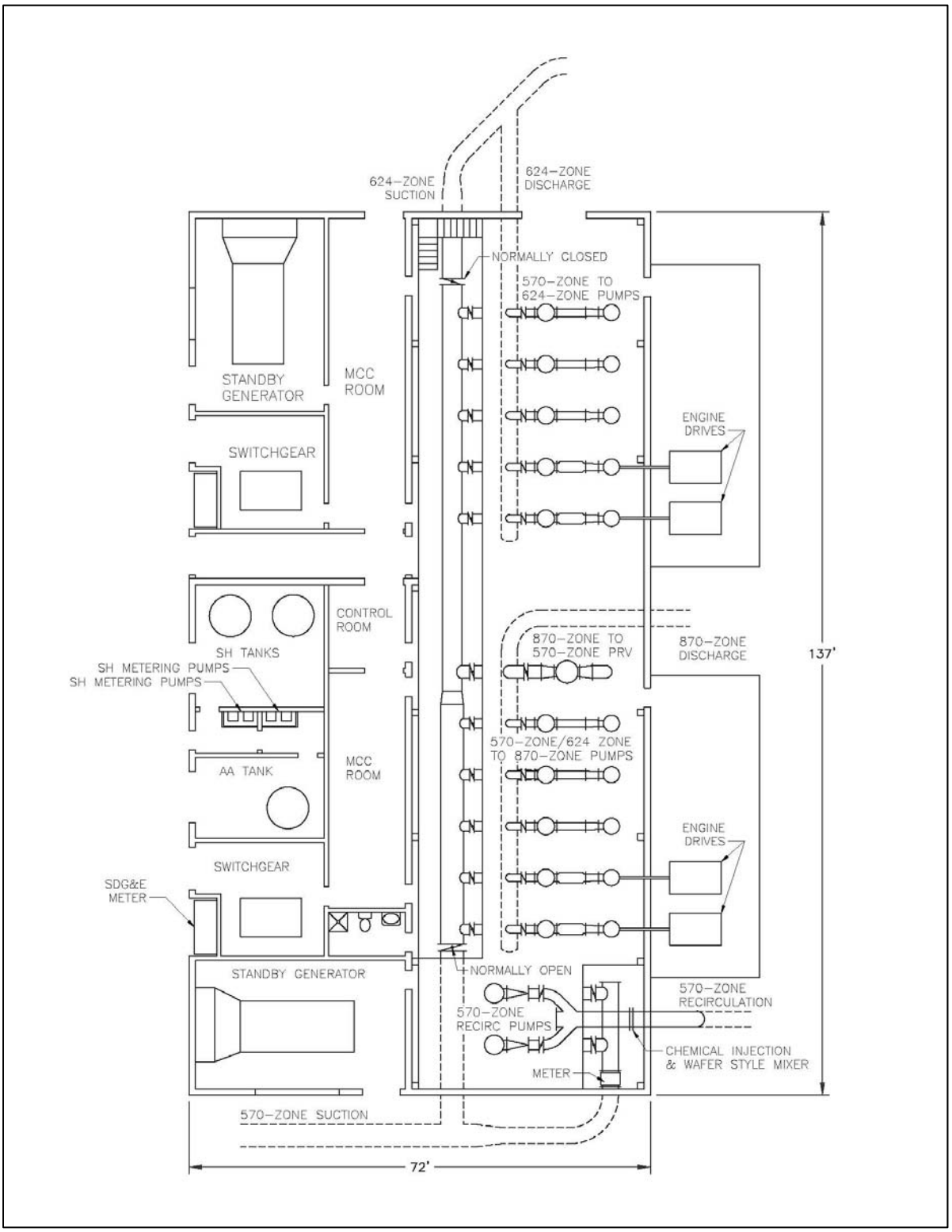


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**Figure 8**
**Phase 2 Plan**
**Otay Water District Pump Station 870-2**

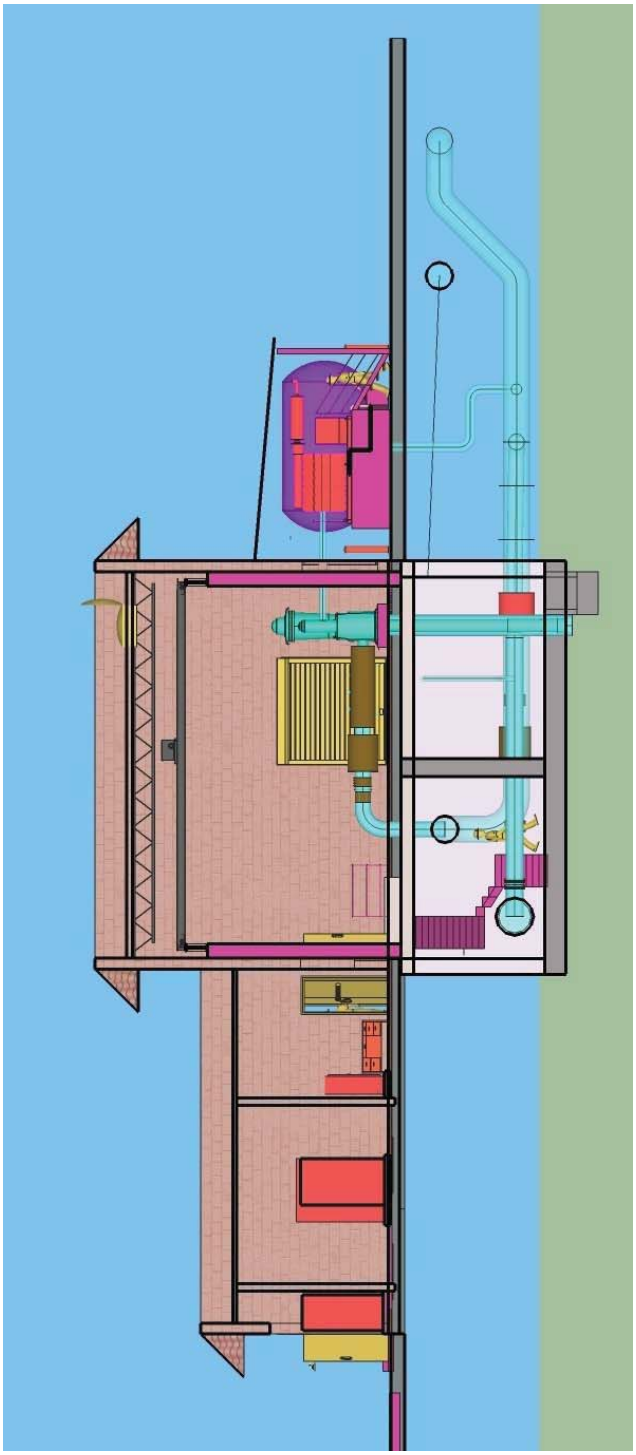

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**Figure 9**
**Proposed Pump Station Section**
**Otay Water District Pump Station 870-2**

### 1.3.1.4 Heating, Ventilation, and Air Conditioning

Ventilation openings and systems would be provided as required by National Fire Protection Association (NFPA) 820.[2] Only the control room with Programmable Logic Controller (PLC) cabinet, the sodium hypochlorite storage tank room, and the aqueous ammonia storage tank room would be air-conditioned. The sodium hypochlorite room would be air-conditioned to minimize the loss of strength of the chemical solution. Ventilation in the pump room would be through multiple acoustical intake louvers in the east wall, centered on pumps and motorized exhaust fans opposite the room and located on the roof.

### 1.3.1.5 Stand-By Generator, Related Equipment, and Fuel Storage

In order to provide power to critical pump station electrical loads when the SDG&E electric service is unavailable, a 480-volt, 3-phase stand-by diesel engine generator is included in the design of the pump station electrical system. At minimum, it is anticipated that the stand-by engine generator would be sized to supply continuous power to the following equipment:

- Three 400-horsepower (hp) electric motor driven pumps equipped with reduced-voltage solid-state starters (RVSS).
- All ancillary electrical loads associated with two 400-hp natural gas engine driven pumps.
- Electrical equipment and instrumentation associated with chemical storage and feed systems.
- Critical supervisory control and data acquisition (SCADA), control system, and telemetry equipment.

A 1500-kilowatt (kW) stand-by engine generator would be required. It would be installed in a dedicated room in the pump station building, reducing any perceivable noise from its operation, and making it less susceptible to theft, vandalism, and inclement weather.

The generator would be electronically connected to the pump station electrical distribution system through an automatic transfer switch installed in the electrical room next to the distribution switchgear that would automatically sense the loss of SDG&E power, start the stand-by engine generator, and connect the stand-by engine generator to the distribution switchgear. Upon restoration of SDG&E power, the automatic transfer switch would then re-connect the distribution switchgear to the SDG&E service and shutdown the standby engine generator. The automatic transfer switch status would be monitored by the pump station control system and would be reported to SCADA. The specific features of the automatic transfer switch would be specified based on District equipment standards to ensure consistency with automatic transfer switches at other pump stations.

The generator would require a 12-volt lead-acid battery system for engine starting. The lead-acid batteries would be rack-mounted on the engine generator skid, and the battery charger would be wall-mounted in the engine generator room.

[2] NFPA 820 lists requirements for protection against fire and explosion hazards specific to wastewater treatment facilities and their associated collection systems.

An approximately 5,000 gallon outdoor above-ground diesel fuel storage tank would be installed to provide 3 days of continuous engine generator runtime at 100% load. The storage tank would be specified with leak detection and level sensing instrumentation for monitoring by the engine generator local control panel and the pump station control system, and would consist of a steel primary tank with concrete encasement for secondary containment. Moreover, a diesel fuel day tank, supplied from the diesel fuel storage tank, would be installed next to the engine in the engine generator room. Exhaust piping and emissions control equipment would be installed to ensure compliance with U.S. Environmental Protection Agency (EPA) Tier 4 emissions levels.

#### 1.3.1.6 Facility Aesthetics

The proposed project's appearance, style, finishes, and architectural refinement would be consistent with the District's existing pump station buildings and structures. The building walls would be split-face masonry block. A parapet wall extending above the actual roof would be provided with a mansard roof façade clad with a barrel tile facsimile. All pump station components, when possible, would be housed inside the building. Surge tanks, fuel storage and waste oil tanks, and the electrical utility service transformer would be located outside of the building.

### 1.3.2 Sewer Lift Station and Force Main

The proposed restroom and chloramine sampling and analyzing at the 870-2 Pump Station would create a small, but continuous waste stream of a maximum of 440 gallons per day that would have to be disposed of. The majority of the waste stream would come from the chloramine sampling equipment. The flow rate from this equipment varies between 40 to 400 gallons per day depending on its configuration. At waste flow rate of 165 gallons or less per day, a holding tank and waste hauling would be recommended; however, a sewer lift station and force main are recommended for a flow rate above 165 gallons per day. Based on the District preferences and past experience, a sewer lift station and force main would be constructed. Figure 10 shows the location of the proposed sewer lift station and force main, which begins at the southwest corner of the project site and continues south along the unpaved road to a connection at an existing manhole located at Alta Road. Figure 11 shows a cross section of the proposed sewer lift station.

### 1.3.3 Proposed Access Roads

The existing paved and compacted dirt roads would be used to access the project site. The sections of the access road that are paved would be repaved and the existing compacted dirt sections would be paved. A small drainage culvert is proposed at a small ephemeral drainage that occurs within an approximately 50-square-foot area along the access road. Figure 12 shows images of the drainage. Consultation with the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and wildlife agencies would be required; and permits such as a Section 404, 401

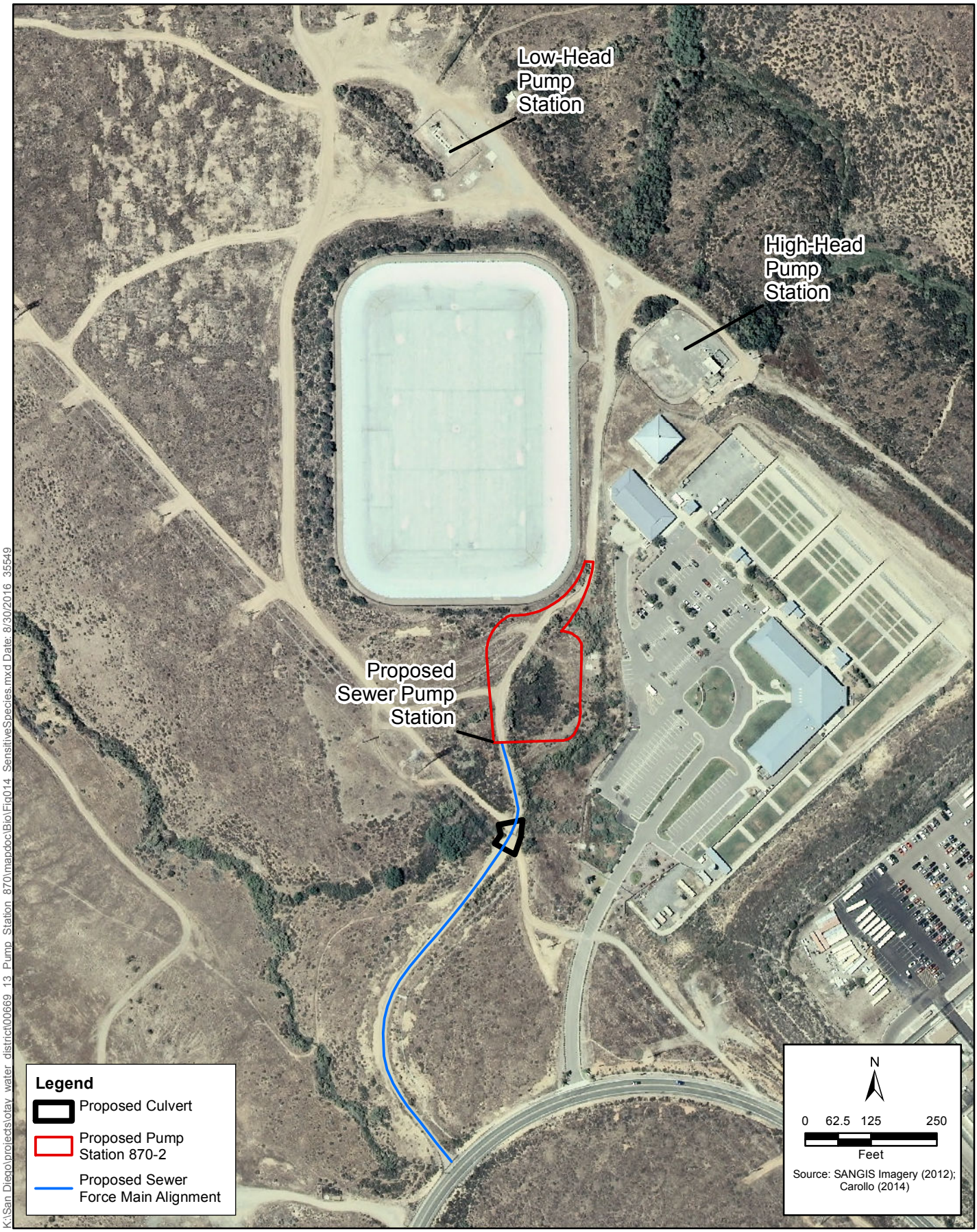


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**Figure 10**
**Approximate Alignment of Proposed Sewer Force Main**
**Otay Water District Pump Station 870-2**

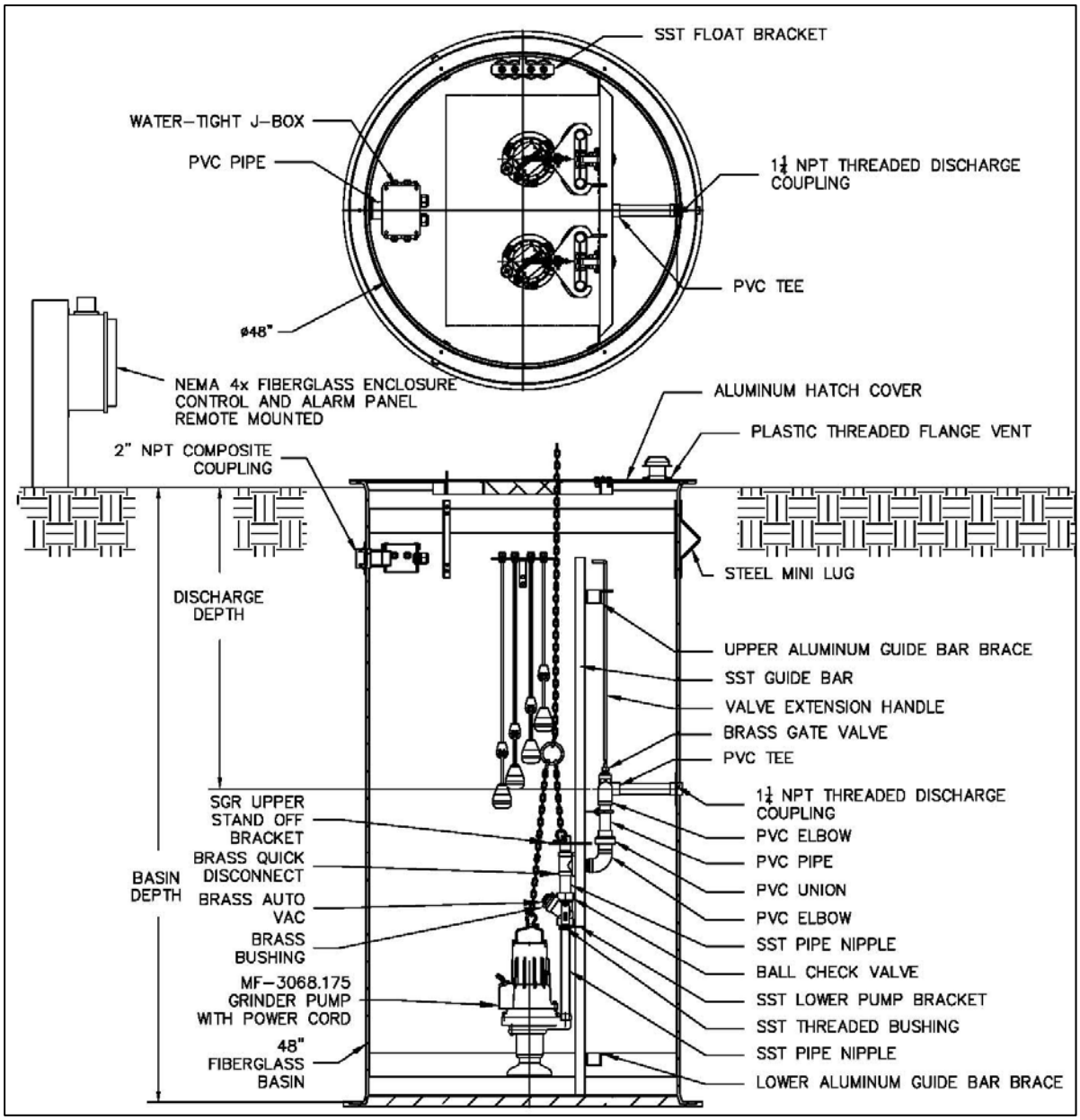


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**Figure 11**
**Sewer Lift Station Section**
**Otay Water District Pump Station 870-2**

**Culvert Area Looking North**

**Culvert Area Looking South**

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**Figure 12**
**Existing Conditions at Proposed Culvert Area**
**Otay Water District Pump Station 870-2**

certification, and a Section 1602 Streambed Alteration Agreement may be needed, all of which would occur after the CEQA process.

## 1.3.4 Proposed Construction Phasing

Construction activities are expected to begin in fall 2017 and be completed by late 2019. The 870-2 Pump Station can be constructed and connections made to the existing 42-inch 570 Zone Reservoir outlet, 30-inch 870 discharge, and 30-inch 570 recirculation lines without limiting the functionality of the existing LHPS, HHPS, or their associated piping. The construction sequence steps would include the following.

1. Connection to the existing 42-inch 570 Zone Reservoir outlet pipeline.
2. Connection to the existing 30-inch 570 Zone Reservoir recirculation pipeline.
3. Connection to the existing 30-inch 870-2 Pump Station discharge pipeline.
4. Conversion of the existing 30-inch recycled water to potable water.
5. Natural gas service to the 870-2 Pump Station.

The 870-2 Pump Station can be constructed and tested prior to the demolition of the LHPS and HHPS. Therefore, if a problem occurs during startup of the 870-2 Pump Station, the LHPS and HHPS could be easily placed back into service. No isolation valves would need to be opened or closed.

## 1.3.5 Proposed Site Grading

Approximately 2.07 acres would be graded and grubbed, resulting in approximately 15,000 cubic yards (CY) of excavation. Of this amount, approximately 2,000 CY would be recompacted on site, and the remaining 13,000 CY would be disposed of by the Contractor at an off-site location. Cut slopes are proposed to be constructed to create a level pad. The gradient of the cut slopes would range from 1:1 to 3:1.

## 1.3.6 Proposed Demolition

The existing LHPS and HHPS could remain in service until pump station 870-2 is placed into service. Once 870-2 is commissioned and has been operational for a period of time, the LHPS and HHPS would be removed. Pipelines and appurtenances specific to the LHPS and HHPS that are below 3 feet in depth would be abandoned in place instead of being removed. Pipelines to be abandoned would be cut and plugged or entirely filled with sand or grout. Furthermore, they would be capped or blind-flanged as close as possible to avoid dead ends. Items and parts that are potentially reusable would be denoted for salvage. Once demolition of the LHPS and HHPS occurs, their sites would be regraded to match surrounding grades. Figure 13 shows the conceptual demolition plan.

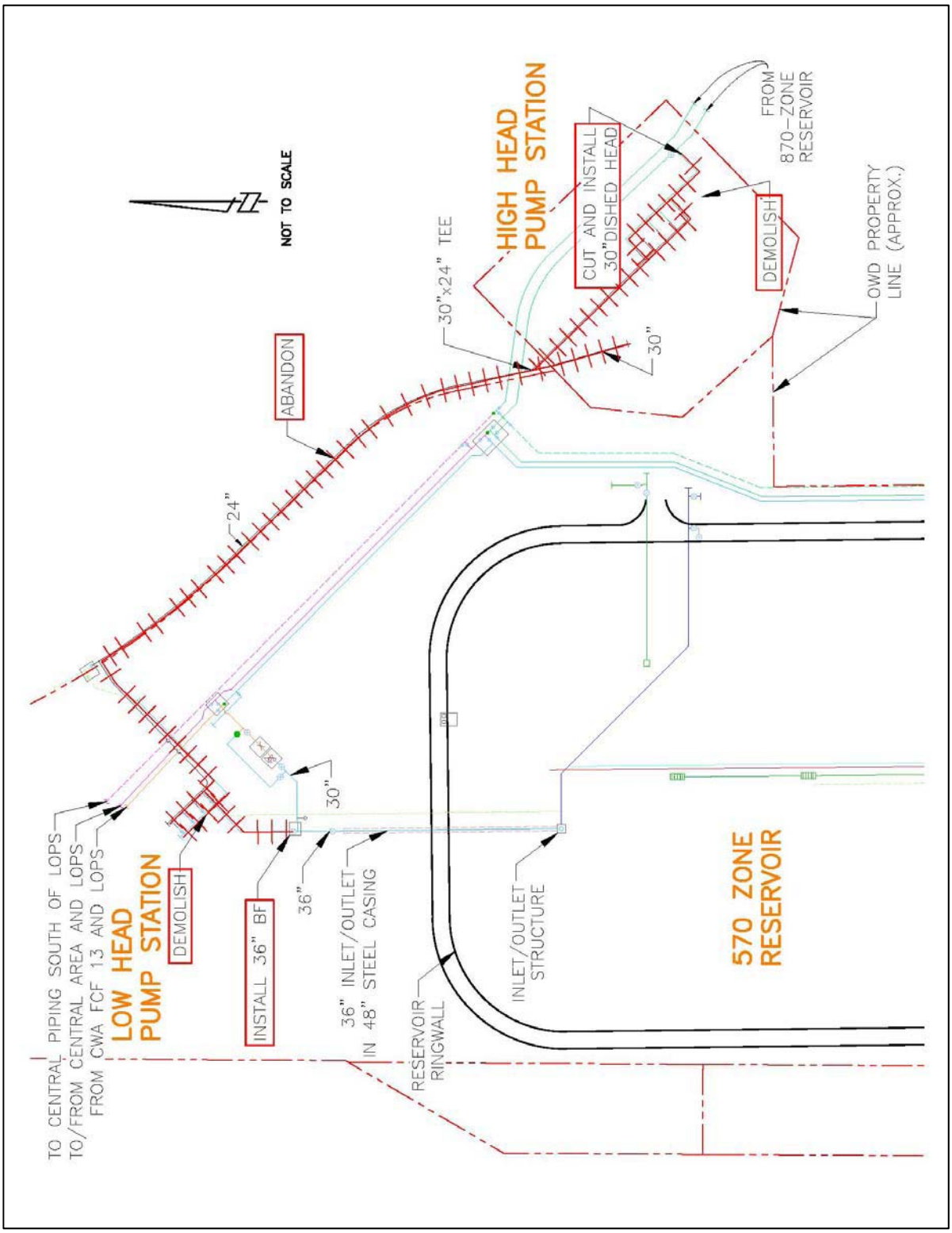


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**Figure 13**
**Demolition Plan**
**Otay Water District Pump Station 870-2**

# 1.4 Authority to Prepare a Mitigated Negative Declaration

As provided in California Environmental Quality Act (CEQA) Section 15070 (Title 14 – California Code of Regulations), a Mitigated Negative Declaration (MND) may be prepared for a project subject to CEQA when an Initial Study (IS) has identified potentially significant effects on the environment, but when revisions to the project have been made so that no significant effect on the environment would result from project implementation. The District is the lead agency and is responsible for planning, constructing, and operating the pump station and associated facility improvements. Based on the findings of the Initial Study/Environmental Checklist Form prepared for this project, the District has determined that preparation of the MND is the appropriate environmental documentation for purposes of CEQA compliance. Chapter 3 of this MND contains the environmental analysis.

# 1.5 Preparers of the Mitigated Negative Declaration

This MND was prepared by ICF International, 9775 Businesspark Avenue, Suite 200, San Diego, California, 92131. The following professionals contributed to its preparation:

**Otay Water District**

Lisa Coburn-Boyd—Environmental Compliance Specialist

**ICF International**

Devon Muto—Project Director

Charlie Richmond,—Project Manager & QA/QC

Mario Barrera – Geology/Soils, Hazards & Hazardous Materials

Karolina Chmiel—Cultural Resources

Soraya Swiontek—Geographic Information Systems

Erika Eidson—Biological Resources

Peter Hardie—Noise

Jim Harry—Environmental Planner

Meghan Heintz—Hydrology/Water Quality

Alexa LaPlante—Hydrology/Water Quality

Matt McFalls—Air Quality, Greenhouse Gases

Tanvi Lal—Agriculture and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing

Tamseel Mir—Aesthetics, Recreation, Transportation and Circulation

# 1.6 Results of Public Review

*RESULTS OF PUBLIC REVIEW TO BE PROVIDED*

# 1.7 Approvals Required

The proposed project would require the following permits and approvals:

**Otay Water District**

- Approve the project
- Approve the Initial Study/Mitigated Negative Declaration
- Adopt the Mitigation Monitoring and Reporting Program

**California Department of Public Health (CDPH)**

- Permit amendment to include chemical treatment process within the pump station

**San Diego County Air Pollution Control District (SDAPCD)**

- Permits for natural gas engine and two standby generators

**San Diego Gas & Electric**

- Joint Use Agreement
- Connection Application

**City of San Diego**

- Sewer Connection Approval

**Regional Water Quality Control Board**

- Stormwater Pollution Prevention Plan (SWPPP)
- Section 401 certification

**County of San Diego**

- Construction Permit
- Drainage Easement Encroachment Permit
- Encroachment Permit

- Excavation Permit
- Grading Permit

**United States Army Corps of Engineers**

- Section 404 compliance

**United States Fish and Wildlife Service**

- Endangered Species Act Section 7 compliance

**California Department of Fish and Game**

- CESA compliance
- Streambed Agreement

# Chapter 2
# Determination

In conformance with State CEQA Guidelines, the District prepared an Initial Study and completed an Environmental Checklist Form (see Chapter 3) for the proposed pump station 870-2 and the associated sewer lift station and conveyance. During the Initial Study process, the lead agency determined that, unless specific mitigation measures were implemented, the proposed project would have a significant impact on biological resources, cultural resources (paleontology), and geology and soils. The project has been revised to include specific measures (see Section 2.1) that fully mitigate for these potentially significant impacts. The Initial Study Checklist (see Chapter 3) provides an analysis of all environmental issues.

## 2.1 Mitigation Measures

Implementation of the mitigation measures described below would reduce all impacts to a less-than-significant level.

### 2.1.1 Biological Resources

**MM BIO-1: Biological Monitoring.** Due to the proximity of Quino, a biological monitor will be present during removal of vegetation and other construction activities occurring within the Quino season as defined by the U.S. Fish and Wildlife Service (USFWS) 2014 protocol (third week of February to the second Saturday in May) to avoid potential impacts on this species by directing construction away from occupied Quino habitat.

**MM BIO-2: Construction and Removal of Vegetation Not to Occur during Least Bell's Vireo or Coastal California Gnatcatcher Breeding Season.** Prior to any construction activity, all contractual agreements with the District will ensure that the following project requirements regarding sensitive wildlife species are completed.

- No clearing, grubbing, or grading of vegetation will occur between February 15 and September 15, the breeding season of the coastal California gnatcatcher and least Bell's vireo. No construction activities resulting in increased noise levels will occur within 300 feet of occupied habitat during the breeding season. However, if construction activities resulting in increased noise levels are proposed during the breeding season for the CGN and/or LBV, the following requirements will have to be met.

  If construction activities are to occur during the breeding season, preconstruction surveys will be required to locate active nests and establish buffer (i.e., no construction) zones. The CAGN survey will consist of a minimum of three surveys, spaced 7 days apart. For the LBV, surveys will be conducted per USFWS protocols between April 10 and July 31; the LBV survey will consist of a minimum of eight surveys, spaced 10 days apart. If active CAGN or LBV nests are located

within the project site the nests will be avoided, and supplemental noise abatement measures may be required. Noise abatement may include the installation of temporary acoustic barriers to reduce noise levels to 60 dBA or below. If adequate noise reduction is not feasible, then construction will be curtailed adjacent to any occupied nests during the breeding season. Directional lighting and mufflers to minimize construction noise will also be required to minimize indirect impacts.

**MM BIO-3: San Miguel Habitat Management Area.** Impacts on the 0.64 acre of sensitive vegetation communities, consisting of 0.01 acre of southern willow scrub, 0.5 acre of Diegan coastal sage scrub, and 0.13 acre of nonnative grassland, will be mitigated at a ratios of 2:1, 2:1, and 0.5:1, respectively through the use of available credits at the District's San Miguel Habitat Management Area (HMA) or through the creation of habitat within the HMA.

**MM BIO-4: Nesting Bird Surveys.** Nesting bird surveys will be required for all project activities and will be conducted by a qualified biologist no more than 5 days prior to commencing project activities. The size of the nesting bird survey area will be determined by a qualified biologist at the time of the survey. If nests are found, the biologist will identify and flag an appropriate buffer until the young have fledged or the nest is no longer active. The specific buffer width will be determined by the biologist at the time of discovery and will vary according to the avian species, site conditions, and the type of work activities to be conducted.

### 2.1.2 Cultural Resources

**MM CUL-1: Presence-Absence Testing in Project Area Prior to Project Construction.** Extended Phase I testing will be conducted to verify the integrity of CA-SDI-10,668 in the project area, and, if warranted, Phase II evaluation will be conducted within the project area prior to construction. A technical report documenting the Extended Phase I and Phase II testing efforts will be prepared. If after completion of subsurface investigation, the OWD confirms the presence and extent of eligible resources within the project area and determines that avoidance and preservation are not feasible and that the resources would be adversely affected, a Cultural Resources Treatment Plan will be prepared and implemented prior to the start of construction.

**MM CUL-2: Cultural Resources Monitoring and Discovery Plan (CRMDP).** A CRMDP will be prepared and finalized prior to the start of construction. The CRMDP will be developed for use during the construction phase of the project. The plan will describe the project, the resources in the project vicinity, and the regulatory context and the procedures to follow for archaeological and Native American monitoring during construction. Archaeological monitor qualification requirements, detailed approaches to archaeological monitoring of various project elements, and the procedures to follow in the event that unanticipated archaeological resources or human remains are discovered will be defined in the CRMDP. The plan will also detail he requirements for archaeological reporting after the construction monitoring the construction phase of the project has ended.

**MM CUL-3: Archaeological and Native American Construction Monitoring:** There exists the low potential to encounter unknown cultural materials given the landform context and depth of construction. As such, full-time archaeological monitoring of all ground-disturbing activities within

the limits of site CA-SDI-10,668 will occur in the project area. Full-time monitoring is defined as follows. A qualified archaeological monitor is required during the entire work day on a daily basis during all ground disturbance throughout the course of the project until a sufficient depth of excavation has been reached at which it is unlikely to encounter buried resources. Monitoring will occur under the supervision of a Designated Project Archaeologist (DPA) who meets the Secretary of the Interior's Professional Qualifications Standards. The DPA and archaeological monitors will be subject to the approval of OWD. The DPA will determine the actual depth of excavation at which monitoring may cease based on soil conditions observed in the field. In the event an unanticipated discovery of archaeological resources occurs during construction, the procedures described in the CRMDP will be followed.

A Native American monitor will be present at all areas designated for full-time. This monitoring will occur on an as-needed basis and will be intended to ensure that Native American concerns are considered during the construction process. Native American monitors will be obtained from Tribes who have expressed interest in the project and have participated in the Section 106 consultation process. Roles and responsibilities of the Native American monitors will be detailed in the CRMDP prepared for the project.

**MM CUL-4: Paleontological Surveys**. A qualified vertebrate paleontologist shall be retained by the District to perform paleontological monitoring during initial ground disturbance. The location of construction activities likely to encounter subsurface sediments with high paleontological sensitivity shall be determined by the qualified paleontologist upon review of project excavation and grading plans. Very shallow surficial excavations, less than 5 feet in depth, within areas of previous disturbance shall be monitored on a part-time basis to ensure that underlying sensitive units are not adversely affected. Any areas consisting of artificial fill materials shall not require monitoring.

### 2.1.3 Geology and Soils

**MM GEO-1: Geotechnical Study.** Prior to the issuance of building or grading permits, the project proponent will conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site. The geotechnical study will be signed by a California-registered professional engineer and must contain field exploration data (drilling and soil sampling); laboratory testing of soil samples; and an engineering analysis to determine soil properties related, but not limited to: ground-motion acceleration parameters, the amplification properties of the subsurface units at the specific site(s), the potential for hydrocompaction to affect the proposed facilities, and the potential for collapsible, subsiding, liquefiable or expansive soils to affect the proposed project. The project proponent will implement recommendations found in the geotechnical study and use conclusions to determine the appropriate engineering to minimize geotechnical hazard impacts.

Chapter 3

# Initial Study/Environmental Checklist Form

| | | |
|---|---|---|
| **1.** | **Project Title:** | Otay Water District Pump Station 870-2 Project |
| **2.** | **Lead Agency Name and Address:** | Otay Water District<br>2554 Sweetwater Springs Boulevard<br>Spring Valley, CA 91978-2004 |
| **3.** | **Contact Person and Phone Number:** | Lisa Coburn-Boyd,<br>Environmental Compliance Specialist<br>(619) 670-2219 |
| **4.** | **Project Location:** | Community of Otay, located in San Diego, CA. See Figure 1 for a regional location and Figure 2 for an aerial map of the project area and immediate vicinity. |
| **5.** | **Project Sponsor's Name and Address:** | Otay Water District<br>2554 Sweetwater Springs Boulevard<br>Spring Valley, CA 91978-2004 |
| **6.** | **General Plan Designation:** | Public/Semi-Public Facilities |
| **7.** | **Zoning:** | S-90 Holding Area |
| **8.** | **Description of Project:** | See Section 1.3 |
| **9.** | **Surrounding Land Uses and Setting:** | See Section 1.2 |

**10. Other Public Agencies whose Approval Is Required:**

- County of San Diego (Responsible Agency)—Ministerial Construction and Grading Permits (Sec. 87.201)
- United States Army Corps of Engineers—Section 404 compliance
- Regional Water Quality Control Board—Section 401 certification
- United States Fish and Wildlife Service—Section 7 compliance
- California Department of Fish and Wildlife—CESA compliance, Streambed Agreement

# 3.1 Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

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

# 3.2 Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

| | |
|---|---|
| Signature | Date |
| Printed Name | For |

# 3.3 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 if 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 offsite as well as onsite, 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, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, "Earlier Analyses", may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to 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 earlier analyses are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures that 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, when 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 a less-than-significant level.

| I. Aesthetics | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c. Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

a. **Have a substantial adverse effect on a scenic vista?**

**No Impact**. The proposed project site is surrounded by industrial and institutional facilities. The industrial facilities include the large Roll Reservoir (870-1) immediately to the north of the site and two pump stations north and east of the reservoir, LHPS and HHPS. The institutional facilities include the R.J. Donovan Correctional Facility to the south and the East Mesa Detention Facility to the immediate east. Beyond these facilities, the area is largely rural or undeveloped with no sensitive receptors located in the immediate vicinity.

The proposed project would include the replacement of the LHPS and HHPS with the construction of the proposed 870-2 pump station and associated sewer lift and conveyance. Once the proposed 870-2 pump station would be placed in service and operational for a period of time, the existing LHPS and HHPS would be demolished. Additionally, under the proposed project, the existing access road would be paved and improved with a drainage culvert. Thus, the changes associated with the proposed project would be in character with the surroundings.

The County General Plan identifies the low-lying coastal plain, mountainous peninsular range, and desert Salton (Imperial Basin) as three distinctive geographic provinces that provide natural vistas and scenic environments in the County (County of San Diego 2011). A vista can be a view from a particular location or composite views along a roadway or trails. Scenic vistas often refer to views of natural lands, but may also be compositions of natural and developed areas. As previously stated, the project area consists of mostly rural or undeveloped land. The proposed installation of the pump station and associated improvements to the existing access road would not adversely affect a scenic vista. No impacts on natural features or ridgelines would occur under the proposed project. Additionally, no visual impacts associated with Otay Lake would occur. Therefore, there would be no impact.

b. **Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?**

**No Impact**. There are no designated scenic highways in the vicinity of the proposed project. State Route (SR-) 94, located more than 12 miles east of the project site has been classified as an "eligible state scenic highway – not officially designated." Similarly, Interstate (I-) 5 is designated an "eligible state scenic highway" and is located approximately 10 miles west of the project site. SR-125 is located more than 3.5 miles west of the project site, but is not a designated or eligible scenic highway. The site is not visible from SR-94 or I-5. (State of California 2011.)

The County General Plan's Conservation and Open Space Element includes a comprehensive County Scenic Highway System. Review of the County Scenic Highway System indicates that there are no other officially designated scenic routes in the project vicinity (County 2011). Therefore, proposed replacement of the existing pump stations and other associated proposed improvements would not adversely impact views from a scenic highway. No impact would occur.

c. **Substantially degrade the existing visual character or quality of the site and its surroundings?**

**Less-than-Significant Impact.** Facilities around the project site that constitute the character of the area include the Roll Reservoir that dominates the area, two existing pump stations (LHPS and HHPS), and the East Mesa Detention Facility. The proposed project would be designed with the character of the other buildings and facilities in mind, and the project components would match the appearance, style, finishes, and architectural refinement of the District's existing pump station buildings and structures. The building walls would be textured masonry block, either split-face or slump. A parapet wall extending above the actual roof would include a mansard roof façade. All proposed pump station components would be housed inside the proposed building as feasible. The proposed project would also include a landscaping component within the project site. Construction of the proposed culvert for the existing access road would not involve extensive use of cut or fill and would occur within the existing access road. This would not substantially alter the terrain within the area.

Consequently, implementation of the proposed project would maintain the existing visual character of the project site. Therefore, construction and operation of the proposed project would not result in a significant adverse impact on visual character or quality of the area.

d. **Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?**

**Less-than-Significant Impact.** The proposed project would not be a source of substantial lighting. Proposed lighting would be similar to lighting provided at the existing facilities located near the project site, such as the parking area to the east and the reservoir to the north. All lighting would be designed for security and safety and would be pointed downward and shielded. Glare would not occur because the building would be a single story and would use predominately non-reflective materials identical to other District pump station facilities. Therefore, impacts would be less than significant.

| II. Agricultural and Forestry Resources | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on 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 the 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? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☒ | ☐ |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e. Involve other changes in the existing environment that, 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? | ☐ | ☐ | ☐ | ☒ |

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?**

**Less-than-Significant Impact.** Under the California Land Conservation Act of 1975 (Williamson Act) and the Farmland Mapping and Monitoring Program (FMMP), farmlands are mapped by the State of California Department of Conservation (CDC) in order to provide data for decision-makers to use in planning for current and future uses of the state's agricultural lands. The project site is designated by the County of San Diego's General Plan as "Public/Semi-Public Facilities" and is zoned as "S-90: Holding Area." Neither the project site nor any parcels within the project vicinity are considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2014).

Although the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, the FMMP identifies the proposed project site as Farmland of Local Importance on its California Important Farmlands Finder map for San Diego County. However, the project area is located on District property that currently contains two nearby pump stations (LHPS and HHPS) and a large reservoir (Roll Reservoir 870), as well as their related structures and conveyance equipment. The broader setting is rural with largely undeveloped land to the north and west, and major state facilities (R.J. Donovan Correctional Facility and East Mesa Detention Facility Complex) on the south and east, respectively.

Thus, the area is not used for farming, and the proposed project would be in character with project site's surroundings. Therefore, the proposed project would not convert any current or recently active farmland to non-agricultural use; impacts on farmland would be less than significant.

b. **Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?**

**No Impact.** No Williamson Act contracts exist for the project site (California Department of Conservation 2014). The County's General Plan designates the project site as Public/Semi-Public Facilities and allows major facilities built and maintained for public use, including community service facilities such as water and sewer facilities (County of San Diego 2014a). Moreover, the site is zoned for S-90, which is considered a Holding Area zone and allows civic, commercial, industrial, and agricultural enclosures (County of San Diego 2014b). Therefore, because there are no Williamson Act contracts on the land and because the project site zoning allows for industrial enclosures such as the 870-2 pump station and related facilities, no impact would result from implementation of the proposed project.

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))?**

**Less-than-Significant Impact.** The project site, including offsite improvements, does not contain forest lands or timberland. The County of San Diego does not have any existing Timberland Production Zones. The County's General Plan designates the project site as Public/Semi-Public Facilities and allows major facilities built and maintained for public use, including community service facilities such as water and sewer facilities. In addition, the project is consistent with the existing zoning of S-90 Holding Area. The S-90 zone is used to prevent premature urban or non-

urban development until more precise zoning regulations are prepared. Uses permitted in the S-90 zone include enclosures related to civic, commercial, industrial, and agricultural uses.

The project site contains pump stations, reservoirs, and related structures and infrastructure. The proposed project would replace the LHPS and HHPS with the new 870-2 pump station and include some offsite improvements such as a culvert and paving for the dirt road that provides access to Alta Road. All proposed activities would be consistent with the existing zoning for the site. Therefore, project implementation would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland production zones.

d. **Result in the loss of forest land or conversion of forest land to non-forest use?**

**No Impact.** The project site does not contain any forest lands as defined in Public Resources Code Section 12220(g); therefore, project implementation would not result in the loss or conversion of forest land to a non-forest use. In addition, the project is not in the vicinity of offsite forest resources. No impact would occur.

e. **Involve other changes in the existing environment that, 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?**

**No Impact.** There is no agricultural land or forest uses on or adjacent to the project site. Therefore, replacement of the LHPS and HHPS with the new 870-2 pump station, and proposed offsite improvements would not involve any other changes that would result in the conversion of farmland to non-agricultural use or forest to non-forest use. No impact would occur.

| III. Air Quality | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| When 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? | ☐ | ☐ | ☒ | ☐ |
| b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☒ | ☐ |
| c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☒ | ☐ |
| d. Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e. Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

a. **Conflict with or obstruct implementation of the applicable air quality plan?**

**Less-than-Significant Impact.** The project site is in the San Diego Air Basin (SDAB) whose boundaries are contiguous with San Diego County. Within San Diego County, the San Diego Air Pollution Control District (SDAPCD) has the primary responsibility for the development and implementation of rules and regulations designed to attain national and state ambient air quality standards, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations in San Diego County. The San Diego Regional Air Quality Strategy (RAQS) is the region's plan for improving regional air quality while attaining state standards, while the State Implementation Plan (SIP) is the region's plan for improving regional air quality while attaining federal standards. The SDAPCD develops a set of emissions control measures that reduce emissions within the basin, in an effort to attain the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These emission controls are adopted as local air quality rules and regulations. San Diego County is currently designated as a nonattainment area for the federal 8-hour ozone ($O_3$) standard, a maintenance area for federal carbon monoxide (CO), and a nonattainment area for state 8-hour $O_3$, serious nonattainment area for state 1-hour $O_3$, particulate matter less than 2.5 microns (PM2.5) and particulate matter less than 10 microns (PM10) standards (CARB 2013).

Both the RAQS and SIP rely on information from the California Air Resources Board (CARB) and the San Diego Association of Governments (SANDAG), including projected growth in the County; and mobile, area, and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the region's cities, county, and special districts. Projects that propose development that is consistent with the growth anticipated by the relevant planning documents that were used in the formulation of the RAQS and SIP would be consistent with the RAQS and SIP.

The proposed project area has a land use designation of "Public/Semi-Public Facilities" and is zoned as S-90 "Holding Area." Uses within a Holding Area include civic, commercial, industrial, and agricultural uses, as well as any temporary uses allowed by a Major Use Permit. Further, the Public/Semi-Public Facilities designation identifies major facilities built and maintained for public use, including community service facilities such as water and sewer facilities. The project site is an existing District site with pump stations, reservoirs, and related structures and infrastructure present on site. The proposed project would replace the existing Low Head and High Head pump stations with the new pump station. Construction of the project would be allowed within the Specific Plan Area designation and the M-52 zone (see "X. Land Use and Planning" below). Thus, the proposed project is consistent with the General Plan and zoning use regulations. Additionally, both short-term construction and long-term operations would result in minimal emissions far below thresholds, as described below. The project would not result in any land use or zoning changes that would conflict with the General Plan or zoning designations. As such, because the project would be consistent with the County of San Diego General Plan, which was used in the formulation of the RAQS and SIP, the project is considered consistent with the RAQS and SIP.

The primary construction-related pollutant in terms of the SDAB air quality plan is PM10. Grading and construction activities would be subject to SDAPCD rules and regulations, including Rule 50 (Visible Emissions), Rule 51 (Nuisance), and Rule 55 (Fugitive Dust Control) (SDAPCD 2010). The principal sources of PM10 emissions would be fugitive dust from earthmoving activities and vehicle travel on unpaved and paved surfaces. The requirements of Rules 50, 51, and 55 can be met by the implementation of standard construction best management practices (BMPs) for dust control. In addition, the project would be subject to the requirements of SDAPCD Rule 67.7, which sets provisions on the application and sale of emulsified asphalt materials.

Project construction and grading activities would adhere to applicable SDAPCD rules and regulations. Impacts would be less than significant.

b. **Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

**Less-than-Significant Impact.** Construction of the proposed project would result in emissions as a result of ground disturbance and site excavation, off-road construction vehicle exhaust, and employee and material delivery vehicle exhaust. Emissions would vary from day to day, depending on the level of activity, the specific type of construction activity occurring, and, for fugitive dust, prevailing weather conditions. The project's construction emissions were estimated and compared to SDAPCD air quality impact analysis (AQIA) trigger levels, as shown in SDAPCD Rule 20.2. An adverse impact on air quality would result if the emission levels from the project were to exceed any

of the AQIA trigger levels. As shown in Table 1, project construction is not anticipated to exceed any AQIA trigger levels.

Construction and operational emissions were calculated using the California Emissions Estimator Model (CalEEMod, version 2013.2.2). Construction information, including phasing schedule, equipment numbers and types, and number of vehicle trips, were provided by the project applicant. CalEEMod defaults with respect to vehicle trip lengths and equipment were used. For purposes of analysis, it was assumed that project construction would occur in two separate phases; first with Site Excavation occurring for 30 days, then with Pump Station and Yard Piping occurring for 300 days. It was assumed that Site Excavation and Pump Station and Yard Piping phases would occur sequentially and would not overlap. It was assumed that 15,000 CY of material would be cut on site, 2,000 CY of which would be used as fill on site, while the remaining 13,000 CY would be hauled off site using 10 CY trucks and 12,000 CY would be imported, also using 10 CY trucks.

With respect to project operations, the new pump station is expected to increase energy and fuel use and result in an increase in operational and maintenance vehicle trips. Operational and maintenance vehicle trips were obtained from the project applicant, and would include one operational worker trip per day, three maintenance worker trips per week, two material delivery trips per week in summer, and two material delivery trips per month in winter. The vehicle fleet mix within CalEEMod was adjusted to reflect the fleet mix for worker trucks and material delivery trucks. Further, emissions associated with electricity and natural gas consumption were estimated within CalEEMod using consumption data provided by the project applicant. Emissions associated with diesel fuel consumption were estimated using fuel consumption data from the applicant assuming a 329 hp diesel pump, brake specific fuel consumption of 0.367 pounds per horsepower-hour, and an average diesel fuel density of 7.1 pounds per gallon (EPA 2012). Additionally, it was assumed the 1,500 kilowatt (2,011 hp) emergency generator would be in-use for 1 hour on the worst-case day and in use for 50 hours per year.

As shown in Table 1, project construction emissions would be below applicable SDAPCD trigger levels for criteria pollutants. Thus, construction of the project would not result in an impact on air quality because emissions would not exceed applicable air quality standards or contribute to existing air quality violations.

**Table 1. Estimated Construction Criteria Pollutant Emissions**

| | Pounds per day | | | | | |
|---|---|---|---|---|---|---|
| Construction Phase | ROG | $NO_X$ | CO | $SO_X$ | PM10 | PM2.5 |
| Phase 1: Site Excavation | 7.0 | 82.6 | 63.1 | 0.1 | 7.3 | 4.0 |
| Phase 2: Pump Station and Yard Piping | 6.9 | 65.3 | 54.1 | 0.1 | 4.6 | 2.6 |
| ***Maximum Daily Emissions*** | ***7.0*** | ***82.6*** | ***63.1*** | ***0.1*** | ***7.3*** | ***4.0*** |
| AQIA Trigger Levels | 75 | 250 | 550 | 250 | 100 | 55 |
| Exceed Trigger Levels? | No | No | No | No | No | No |

ROG = reactive organic gas.
CO = carbon monoxide.
PM10 = particulate matter equal to or less than 10 microns.
PM2.5 = particulate matter less than 2.5 microns.
$NO_X$ = oxides of nitrogen.
$SO_X$ = sulfur oxides.

Note: CalEEMod emission output sheets are provided in Appendix A.
There would be no overlap between Site Excavation and the Pump Station and Yard Piping phases.

As shown in Table 2, project operational emissions would be below applicable SDAPCD trigger levels for criteria pollutants. Thus, construction of the project would not result in an impact on air quality because emissions would not exceed applicable air quality standards or contribute to existing air quality violations.

**Table 2. Estimated Operational Criteria Pollutant Emissions**

| | Pounds per day | | | | | |
|---|---|---|---|---|---|---|
| Construction Phase | ROG | $NO_X$ | CO | $SO_X$ | PM10 | PM2.5 |
| Worker and Delivery Vehicles | 0.0 | 0.2 | 0.4 | 0.0 | 0.0 | 0.0 |
| Natural Gas Combustion | 0.5 | 4.1 | 3.5 | 0.0 | 0.3 | 0.3 |
| Emergency Generator | 1.2 | 15.8 | 4.2 | 0.0 | 0.4 | 0.4 |
| Diesel Fuel Combustion | 0.2 | 2.2 | 0.8 | 0.0 | 0.1 | 0.1 |
| ***Maximum Daily Emissions[a]*** | ***1.8*** | ***22.3*** | ***8.8*** | ***0.0*** | ***0.8*** | ***0.8*** |
| AQIA Trigger Levels | 75 | 250 | 550 | 250 | 100 | 55 |
| Exceed Trigger Levels? | No | No | No | No | No | No |

ROG = reactive organic gas.
CO = carbon monoxide.
PM10 = particulate matter equal to or less than 10 microns.
PM2.5 = particulate matter less than 2.5 microns.
$NO_X$ = oxides of nitrogen.
$SO_X$ = sulfur oxides.

[a] Values may not add due to rounding.
Note: CalEEMod emission output sheets are provided in Appendix A.

c. **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?**

**Less-than-Significant Impact.** See response to III.a and III.d. Cumulative impacts could result if the project would exceed established thresholds of significance. The SDAB is currently designated as a nonattainment area for the federal 8-hour $O_3$ standard, a maintenance area for federal CO, and nonattainment area for state 8-hour $O_3$, serious nonattainment area for state 1-hour $O_3$, PM2.5 and PM10 standards, which is a result of past and present projects and will be further impeded by reasonably foreseeable future projects. As discussed under III.a, criteria pollutant emissions would be below SDAPCD thresholds during both construction and operational activities. In addition, cumulative impacts could result if the proposed project would be constructed at the same time as other development projects in the area, thereby exposing sensitive receptors to cumulative emission concentrations (see response to III.d).

The project site is in a rural setting that is surrounded largely by undeveloped land to the north and west, and the R.J Donovan Correctional Facility and East Mesa Detention Facility Complex on the south and east, respectively. There are no residences near the project site, and the closest commercial development is 2 miles to the south of the site. It is not anticipated that extensive construction would occur in the area while the proposed project is being constructed. Possible cumulative impacts on air quality as a result of all construction activities in the area would be addressed by the standard SDAPCD measures that apply to construction projects. It is anticipated that, with the incorporation of the standard SDAPCD dust control measures, the contribution of the project to cumulative impacts related to PM10 and PM2.5 emissions would be less than significant. Project operations would not contribute to any significant cumulative impacts related to nonattainment status for ozone, PM10, or PM2.5. The proposed project would not result in emissions that exceed SDAPCD regional significance thresholds, and therefore would not negatively impact regional air quality (see Tables 1 and 2). Consequently, proposed project construction and operations would not result in a cumulatively considerable net increase in emissions. This impact would be less than significant.

d. **Expose sensitive receptors to substantial pollutant concentrations?**

**Less-than-Significant Impact.** See response to III.a and III.c. Diesel Particulate Matter (DPM), which is classified as a carcinogenic toxic air contaminant by CARB, is the primary pollutant of concern with regards to health risks to sensitive receptors. Diesel-powered construction equipment and heavy duty on-road vehicles operating on- and off site during construction and operations would emit diesel exhaust, which can be inhaled by nearby sensitive receptors. Land uses near the project area include the large reservoir (870-1) and two pump stations (LHPS and HHPS) to the north, the R.J Donovan Correctional Facility and the East Mesa Detention Facility Complex to the south and east, respectively, and undeveloped land beyond these facilities. Construction activities would occur over an approximately 12-month period, which is much shorter than the assumed 70-year exposure period used to estimate lifetime cancer risks. Long-term operations would be limited to periodic vehicle trips and some onsite fuel combustion. Onsite truck idling would be minimal, limited to a maximum of 5 minutes per truck, consistent with CARB's Heavy Duty Idling Reduction Program. The proposed project may create a nuisance for nearby visitors and inmates at the R.J Donovan and East

Mesa Detention Facility Complex during hours of construction and operations, as diesel trucks could create occasional exposure to exhaust, but this exposure would be minimal and would not pose a significant health risk and, furthermore, would be similar to the existing condition once the facility is operational. Additionally, adherence to SDAPCD Rules 50, 51, 55, and 67.7 would limit dust and ROG emissions that could impact nearby receptors. Therefore, the potential human health impact is considered to be minimal. In addition, the project would not create congestion at nearby roadways or intersections, so the exposure to elevated CO concentrations is considered minimal. This impact would be less than significant.

e. **Create objectionable odors affecting a substantial number of people?**

**Less-than-Significant Impact.** Project-related odor emissions would primarily be limited to the construction period, during which emissions from construction equipment could be temporarily evident in the immediately surrounding area. Potential sources of odors during construction activities include diesel exhaust from construction equipment and diesel vehicles. These odors would not affect a substantial number of people, as the scale of construction would be small, the frequency of permanent trips would be very low, and the potentially affected area would be limited due to the localized evidence of these odors. Additionally, such temporary sources of odors are not considered significant. Therefore, the project's odor impact would be less than significant.

| IV. Biological Resources | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| 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 Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☒ | ☐ | ☐ |
| d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☒ | ☐ | ☒ |
| e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☒ | ☐ |
| f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☒ | ☐ |

a. **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**Less than Significant with Mitigation Incorporated.** Biological studies were conducted in 2013 by AECOM staff in support of the Otay Mesa Conveyance and Disinfection System Project (OMCDSP). The findings of those surveys—as presented in the Biological Resources Report for that project—were used to analyze potential effects of the proposed project on sensitive biological resources (Appendix B).

Rare plant surveys conducted in 2013 for the OMCDSP determined that special-status plants do not occur within the project site for the proposed pump station. However, a few individuals of San Diego goldenstar (*Bloomeria clevelandii*) and two individuals of San Diego barrel cactus (*Ferocactus viridescens*) occur along the alignment for the proposed sewer force main (Figure 14). However, these individuals do not represent a regionally significant population; thus, impacts on these species are considered to be less than significant.

Focused surveys conducted by AECOM in 2013 determined that Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) occur north, west, and southwest of Roll Reservoir and in the vicinity of the LHPS (Figure 14). No Quino or host plants were detected at the site of the proposed pump station; however, the closest occurrence of Quino was reported from approximately 300 feet west of the proposed pump station site (Figure 14). A significant impact could occur due to the proximity of the site to areas supporting Quino. Mitigation Measure BIO-1 would ensure that impacts on this species would be less than significant.

During one of the eight focused surveys conducted by AECOM in 2013 a single male least Bell's vireo (*Vireo bellii*; LBV) was detected within the project site for the proposed pump station (Figure 14); this individual was not detected in the project site on any other occasion. A breeding pair and fledglings of least Bell's vireo were noted approximately 200 feet south of the project site for the proposed pump station. Therefore, there is the potential for significant impacts. Implementation of mitigation measure MM BIO-2 would reduce the project's potential adverse impacts on least Bell's vireo to a less than significant level.

Focused surveys conducted by AECOM in 2013 determined that coastal California gnatcatcher (*Polioptila californica californica*; CAGN) do not occur in the vicinity of the proposed pump station project site; the closest individual was detected approximately 725 feet to the north. A CGN family unit and a territorial pair were detected in Diegan coastal sage scrub north of Roll Reservoir, in the vicinity of the existing LHPS (Figure 14). The proposed pump station would not result in direct impacts on suitable coastal sage scrub habitat occupied by the CGN; however, increased noise levels from project activities, especially those associated with the LHPS, may result in indirect impacts on CGN. Implementation of mitigation measures MM BIO-2 would reduce the project's potential adverse impacts on CGN to a less-than-significant level.

Surveys conducted by AECOM in 2013 also determined that San Diego jackrabbit (*Lepus californicus bennettii*) was the only special-status species detected in the vicinity of the pump station site. Indirect impacts on this species would occur from loss of habitat. These impacts would be mitigated to a less-than-significant level through habitat-based mitigation (see mitigation measure MM BIO-3).

Removal of vegetation will not occur during the bird nesting season. However, increased noise levels due to project activities could result in indirect impacts on birds/raptor species protected by the Migratory Bird Treaty Act [MBTA]), which would be a potentially significant impact. Implementation of Mitigation Measure BIO-4 would reduce the project's potential direct and indirect adverse impacts from short-term construction noise on species protected by the MBTA to a less-than-significant level.

**Mitigation Measure BIO-1: Biological Monitoring.** Due to the proximity of Quino, a biological monitor will be present during removal of vegetation and other construction activities occurring within the Quino season as defined by the U.S. Fish and Wildlife Service (USFWS) 2014 protocol

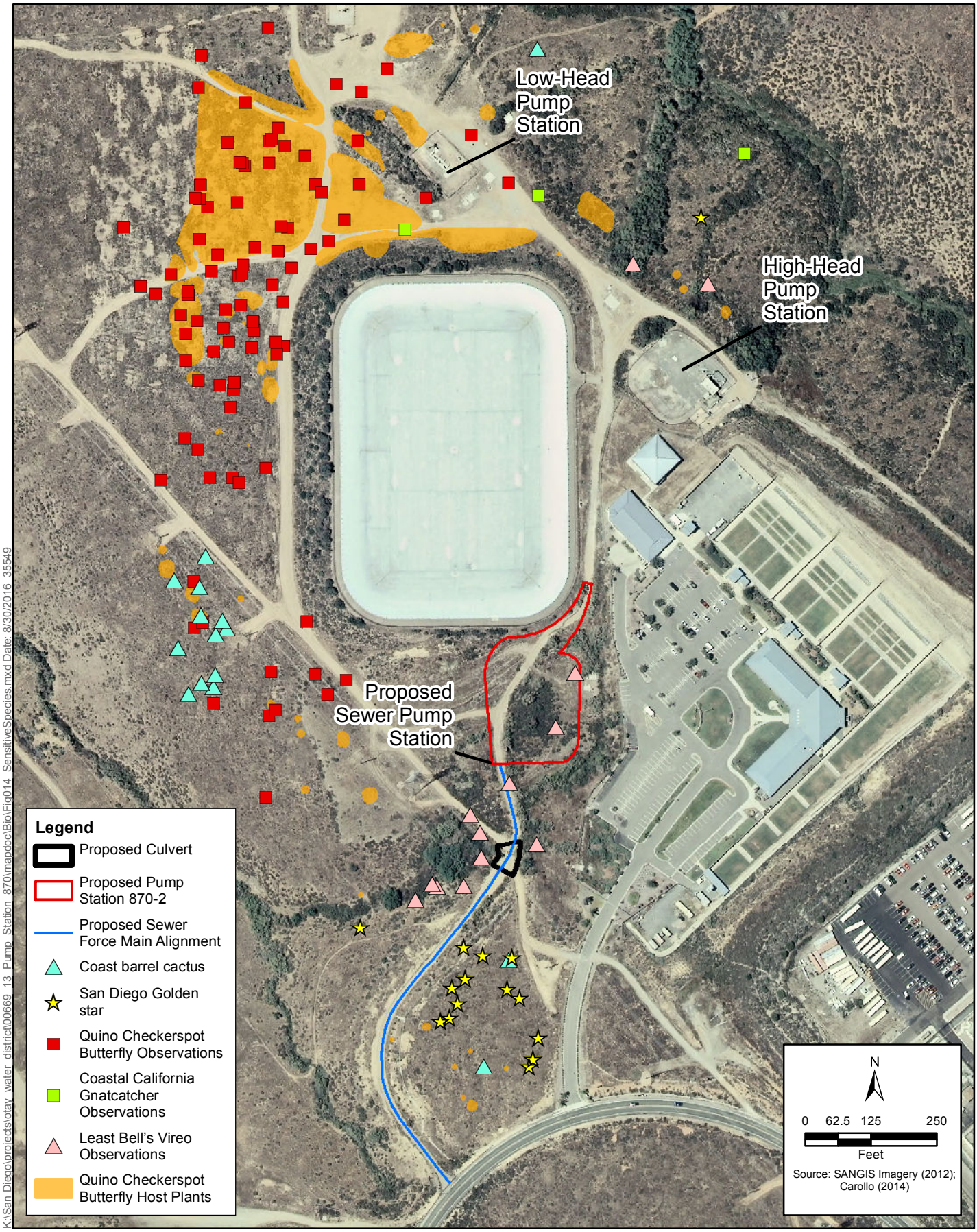


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**Figure 14**
**Sensitive Species**
**Otay Water District Pump Station 870-2**

(third week of February to the second Saturday in May) to avoid potential impacts on this species.

**Mitigation Measure BIO-2: Construction and Removal of Vegetation Not to Occur during Least Bell's Vireo or Coastal California Gnatcatcher Breeding Season.** Prior to any construction activity, all contractual agreements with the District will ensure that the following project requirements regarding sensitive wildlife species are completed.

- No clearing, grubbing, or grading of vegetation will occur between February 15 and September 15, the breeding season of the coastal California gnatcatcher and least Bell's vireo. No construction activities resulting in increased noise levels will occur within 300 feet of occupied habitat during the breeding season. However, if construction activities resulting in increased noise levels are proposed during the breeding season for the CGN and/or LBV, the following requirements will have to be met.

  If construction activities are to occur during the breeding season, preconstruction surveys will be required to locate active nests and establish buffer (i.e., no construction) zones. The CAGN survey will consist of a minimum of three surveys, spaced 7 days apart. For the LBV, surveys will be conducted per USFWS protocols between April 10 and July 31; the LBV survey will consist of a minimum of eight surveys, spaced 10 days apart. If active CAGN or LBV nests are located within the project site the nests will be avoided, and supplemental noise abatement measures may be required. Noise abatement may include the installation of temporary acoustic barriers to reduce noise levels to 60 dBA or below. If adequate noise reduction is not feasible, then construction will be curtailed adjacent to any occupied nests during the breeding season. Directional lighting and mufflers to minimize construction noise will also be required to minimize indirect impacts.

**Mitigation Measure BIO-3: San Miguel Habitat Management Area.** Impacts on the 0.64 acre of sensitive vegetation communities, consisting of 0.01 acre of southern willow scrub, 0.5 acre of Diegan coastal sage scrub, and 0.13 acre of nonnative grassland, will be mitigated at a ratios of 2:1, 2:1, and 0.5:1, respectively through the use of available credits at the District's San Miguel Habitat Management Area (HMA) or through the creation of habitat within the HMA.

**Mitigation Measure BIO-4: Nesting Bird Surveys**. Nesting bird surveys will be required for all project activities and will be conducted by a qualified biologist no more than 5 days prior to commencing project activities. The size of the nesting bird survey area will be determined by a qualified biologist at the time of the survey. If nests are found, the biologist will identify and flag an appropriate buffer until the young have fledged or the nest is no longer active. The specific buffer width will be determined by the biologist at the time of discovery and will vary according to the avian species, site conditions, and the type of work activities to be conducted.

b. **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**Less than Significant with Mitigation Incorporated.** Southern willow scrub, a riparian habitat, and Diegan coastal sage scrub and nonnative grassland, both of which are sensitive natural vegetation communities, were identified within the project footprint (see Figure 15). The project footprint also supports disturbed habitat and tamarisk scrub, neither of which are considered

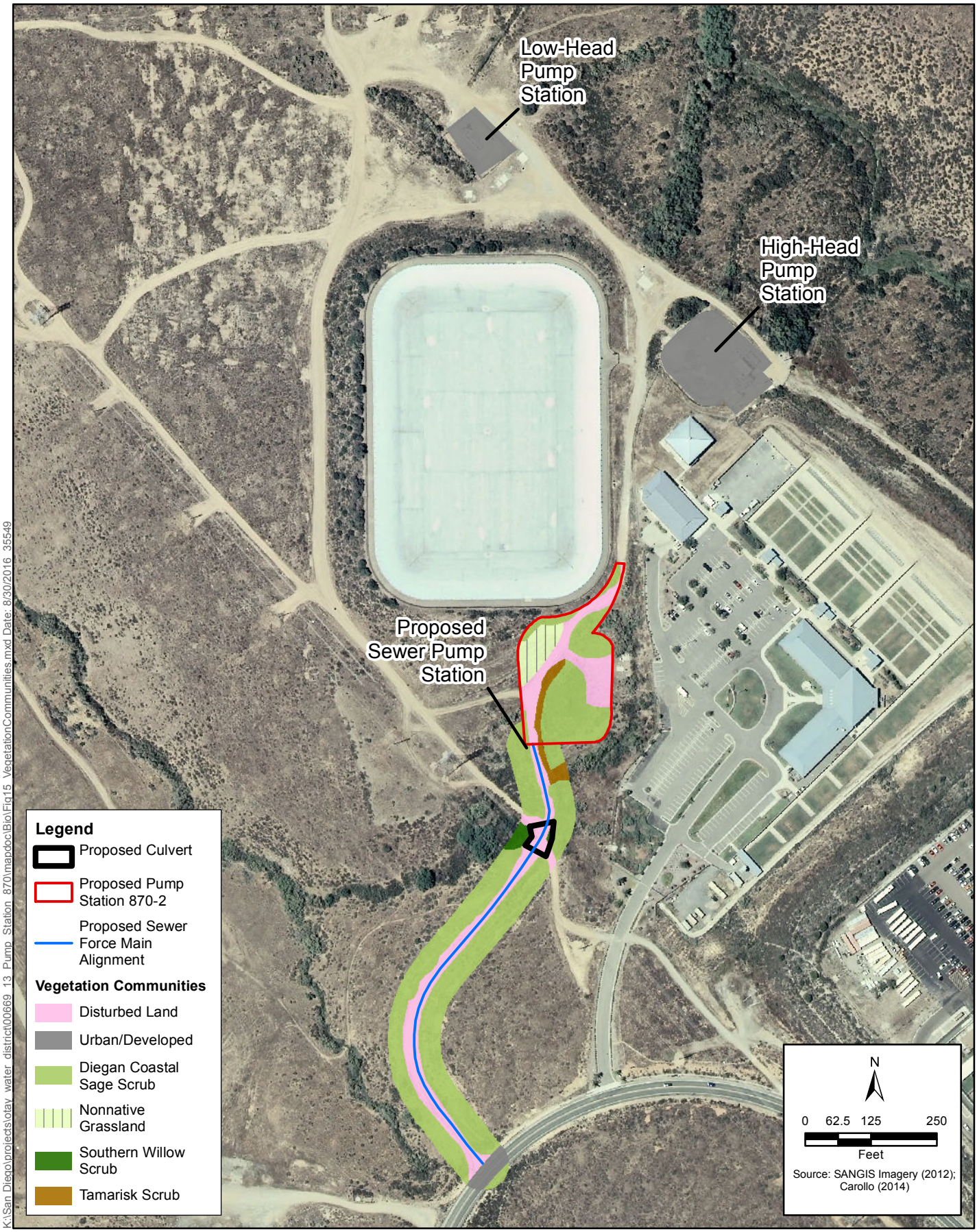


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**Figure 15**
**Vegetation Communities**
**Otay Water District Pump Station 870-2**

sensitive natural communities. The project would impact approximately 0.64 acre of sensitive vegetation communities, consisting of 0.01 acre of southern willow scrub, 0.5 acre of Diegan coastal sage scrub, 0.13 acre of nonnative grassland.

The District is proposing to mitigate impacts on 0.5 acre of coastal sage scrub species at a 2:1 ratio and impacts on nonnative grassland at a 0.5:1 acre through the use of coastal sage scrub credits at the District's established San Miguel HMA (mitigation measure MM BIO-3). Implementation of mitigation measure MM BIO-3 would reduce the project's potential adverse impacts on sensitive vegetation communities to a less-than-significant level.

c. **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Less-than-Significant Impact.** Jurisdictional features occurring within the proposed culvert footprint are potentially jurisdictional under the USACE, RWQCB, and California Department of Fish and Wildlife (CDFW). Permits potentially required for the project include a Nationwide 12 permit from the USACE, a Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. Therefore, because the proposed project would be required to obtain the appropriate permits to impact jurisdictional waters and mitigation would be prescribed by the regulatory agencies that would reduce impacts to less than significant, the proposed project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

d. **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or within established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**No Impact.** The project site does not function as a wildlife corridor or as a native wildlife nursery site. The project site is contiguous with undeveloped areas to the north, west, and south, which would allow for the continued movement of wildlife through this area. Therefore, construction and operation of the proposed project would not interfere with the movement of any native resident wildlife species or within established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Furthermore, waterways with the ability to support fish do not occur on the project site.

e. **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less-than-Significant Impact.** The proposed project site is adjacent to the San Diego County Multiple Species Conservation Program (MSCP). Design of the proposed project is considered consistent with the provisions of the County MSCP. In order to comply and be consistent with the County MSCP, local jurisdictions are required to implement mitigation and/or encroachment standards, manage and monitor conserved lands, and conduct environmental review as required by CEQA, as detailed in the County MSCP. The proposed project would not conflict with the above-mentioned plan or the provisions of this plan because its design would not result in significant impacts on any biological resources (see responses to IV.a and IV.4b). Impacts would be less than significant.

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?**

**Less-than-Significant Impact.** See response to IV.e. The proposed project would be consistent with provisions identified in the County MSCP. Local jurisdictions are required to implement mitigation and/or encroachment standards, manage and monitor conserved lands, and conduct environmental review as required by CEQA; and the proposed project is consistent with these County MSCP provisions. Impacts would be less than significant.

| V. Cultural Resources | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? | ☐ | ☐ | ☐ | ☒ |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |
| d. Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |

a. **Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?**

**No Impact.** ICF International completed a cultural resource inventory and field survey for the proposed project in March 2014 (Appendix C). The purpose of the cultural resources report was to assess whether historical or archaeological resources might be adversely affected within the area of potential effect (APE) by the activities associated with construction of the proposed facilities, pursuant to CEQA.

A cultural resource records search performed at the South Coastal Information Center (SCIC) did not identify any previously recorded historical resources within the project area. Furthermore, the literature search indicated that no previously recorded historical resources were known to be present within the project APE. No sites in the APE are listed on the National Register of Historic Places, California Register of Historical Resources, California Inventory of Historic Resources, or California Historical Landmarks. An intensive pedestrian survey used to verify the existence of any previously recorded sites on the property and to identify, map, and describe all new historic cultural resources did not uncover any existing or new historical resources.

Because no previously recorded historical resources and no new historical resources were discovered to be present in the APE during the records search and the current field survey, no impacts would occur. Therefore, implementation of the project would not result in an impact on historical resources.

b. **Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

**Less than Significant with Mitigation Incorporated.** Based on a literature and records search and cultural resources site survey, the project has the potential to result in direct impacts on a known archaeological resource, site CA-SDI-10,668. Portions of the site have been determined to be ineligible for the California Register of Historical Resources, although its extent and integrity within

the project area have not yet been determined (Atkins 2013). Extended Phase I investigations would determine the extent of the resources within the archaeological project area. Impacts are potentially significant because grading and excavation for the proposed project may result in disturbance or destruction of archaeological materials that may be associated with CA-SDI-10,668. Additionally, the project could result in the physical destruction of unknown archaeological resources discovered during construction (unanticipated discoveries). Such impacts are potentially significant and could include damage to or removal of important resources, as well as impacts on their context and integrity, limiting the ability to recover important data. To account for the possibility of an unanticipated discovery of archaeological resources or human remains during project-related ground disturbance, Mitigation Measures CUL-1, CUL-2 and CUL-3 will be implemented, as described below.

**Mitigation Measure CUL-1: Presence-Absence Testing in Project Area Prior to Project Construction.** Extended Phase I testing will be conducted to verify the integrity of CA-SDI-10,668 in the project area, and, if warranted, Phase II evaluation, will be conducted within the project area prior to construction. A technical report documenting the Extended Phase I and Phase II testing efforts will be prepared. If after completion of subsurface investigation, the OWD confirms the presence and extent of eligible resources within the project area and determines that avoidance and preservation are not feasible and that the resources would be adversely affected, a Cultural Resources Treatment Plan will be prepared and implemented prior to the start of construction.

**Mitigation Measure CUL-2: Cultural Resources Monitoring and Discovery Plan (CRMDP).** A CRMDP will be prepared and finalized prior to the start of construction. The CRMDP will be developed for use during the construction phase of the project. The plan will describe the project, the resources in the project vicinity, and the regulatory context and the procedures to follow for archaeological and Native American monitoring during construction. Archaeological monitor qualification requirements, detailed approaches to archaeological monitoring of various project elements, and the procedures to follow in the event that unanticipated archaeological resources or human remains are discovered will be defined in the CRMDP. The plan will also detail he requirements for archaeological reporting after the construction monitoring the construction phase of the project has ended.

**Mitigation Measure CUL-3: Archaeological and Native American Construction Monitoring** There exists the low potential to encounter unknown cultural materials given the landform context and depth of construction. As such, full-time archaeological monitoring of all ground-disturbing activities within the limits of site CA-SDI-10,668 will occur in the project area. Full-time monitoring is defined as follows. A qualified archaeological monitor is required during the entire work day on a daily basis during all ground disturbance throughout the course of the project until a sufficient depth of excavation has been reached at which it is unlikely to encounter buried resources. Monitoring will occur under the supervision of a Designated Project Archaeologist (DPA) who meets the Secretary of the Interior's Professional Qualifications Standards. The DPA and archaeological monitors will be subject to the approval of OWD. The DPA will determine the actual depth of excavation at which monitoring may cease based on soil conditions observed in the field. In the event an unanticipated discovery of archaeological resources occurs during construction, the procedures described in the CRMDP will be followed. A Native American monitor will be present at all areas designated for full-time. This monitoring will occur on an as-needed basis and will be intended to ensure that Native American concerns

are considered during the construction process. Native American monitors will be obtained from Tribes who have expressed interest in the project and have participated in the Section 106 consultation process. Roles and responsibilities of the Native American monitors will be detailed in the CRMDP prepared for the project.

c. **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less than Significant with Mitigation Incorporated.** Previous analysis prepared for the project site identified the site being primarily underlain by Tertiary-age Otay Formation, which is described as consisting of poorly indurated, massive, light-colored sandstone, siltstone, and claystone interbedded with bentonite lenses. Numerous fossil localities have been discovered in the Otay Formation in the Chula Vista and Otay Mesa areas of southwestern San Diego County. These localities have produced well-preserved remains of a diverse assemblage of terrestrial vertebrates such as tortoises, lizards, snakes, birds, rodents, foxes, rhinoceros, camels, and mouse-deer (Deméré 2010). Because of its paleontological richness, the Otay Formation is assigned a high paleontological resource sensitivity. Impacts are potentially significant because grading and excavation for the proposed project may result in disturbance or destruction of paleontological resources associated with the Otay Formation. Mitigation Measure CUL-4 would reduce the impacts to less than significant.

**Mitigation Measure CUL-4: Paleontological Surveys**. A qualified vertebrate paleontologist shall be retained by the District to perform paleontological monitoring during initial ground disturbance. The location of construction activities likely to encounter subsurface sediments with high paleontological sensitivity shall be determined by the qualified paleontologist upon review of project excavation and grading plans. Very shallow surficial excavations, less than 5 feet in depth, within areas of previous disturbance shall be monitored on a part-time basis to ensure that underlying sensitive units are not adversely affected. Any areas consisting of artificial fill materials shall not require monitoring.

d. **Disturb any human remains, including those interred outside of formal cemeteries?**

**Less-than-Significant Impact.** See responses to V.a and V.b. A letter was sent to the NAHC on February 27, 2014. The response, dated March 3, 2014, indicated that no sacred sites on record with the commission were present on the project site. However, there is a possibility that unmarked, previously unknown Native American or European-American graves could be present within the project site. Project construction includes activities that have the potential to disturb previously unknown, buried human remains. In accordance with Public Resources Code Section 5097and Health and Safety Code 7050.5, if human remains are identified or suspected, the District would immediately notify the Principal Investigator (PI) who, in turn, would notify the Medical Examiner's (ME) office. If the ME, in consultation with the PI, determines that the remains are Native American, then the ME would contact the Native American Heritage Commission (NAHC). The NAHC would then identify Most Likely Descendent (MLD) candidates. The PI would initiate consultation with the MLD(s) before activity continues at the site of discovery. The PI and MLD would establish a mutually agreed upon protocol for processing the remains, associated grave goods, and sacred objects and the analysis and ultimate disposition of these materials. Following completion of applicable analyses, the human remains and any other items associated with the burial would be repatriated to the MLD.

Written verification of repatriation from MLD would complete this process. Compliance with state regulations would result in less-than-significant impacts on buried human remains.

| VI. Geology and Soils | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| 1. 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. | ☐ | ☐ | ☐ | ☒ |
| 2. Strong seismic ground shaking? | ☐ | ☒ | ☐ | ☐ |
| 3. Seismic-related ground failure, including liquefaction? | ☐ | ☒ | ☒ | ☐ |
| 4. Landslides? | ☐ | ☒ | ☒ | ☐ |
| b. Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| 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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☒ | ☐ | ☐ |
| d. 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. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ☒ |

a. **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

1. 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.)

**No Impact.** No active faults are in the vicinity of the project, and thus fault rupture is unlikely to occur during project implementation. Additionally, the project area is not located within a State of California Alquist-Priolo Earthquake Fault Hazard Zone, and project features do not include the addition of new structures meant for human occupancy within 50 feet of the nearest fault. The

nearest earthquake fault zone is located in the Point Loma Quadrangle, approximately 6 miles to the west in the San Diego Bay. As such, people or structures would not be exposed to substantial adverse effects from a rupture of a known earthquake fault. No impact would occur.

2. Strong seismic groundshaking?

**Less-than-Significant with Mitigation Incorporated.** As with most southern California regions, the project site would be subject to strong ground shaking in the event of a major earthquake. According to the *Phase 1 Environmental Site Assessment, 870-2 Pump Station Project, Assessors Parcel Numbers 648-010-17-11 and 648-010-23-00 Jamul, California* (November 2013) prepared by Southern California Soil & Testing, Inc., three major faults zones and some subordinate fault zones are found in the Peninsular Ranges Geomorphic Province. The Elsinore Fault zone and the San Jacinto Fault zones trend northwest-southeast, and are found near the middle of the province. The San Andreas Fault zone borders the northeasterly margin of the province. Additionally, the Otay Mesa area is located in Seismic Zone 4, which is a designation previously used in the Uniform Building Code to denote the areas of the highest risk to earthquake ground motion (California Seismic Safety Commission 2005). As a result, the project could be subject to future seismic shaking and strong ground motion resulting from seismic activity, and damage could occur.

However, the proposed project is not expected to draw a substantial amount of people, either during project activities or permanently, and the number of personnel required for routine maintenance would be similar to the existing condition. Moreover, no structures intended for human occupation would be built, and thus potential risk to the occasional personnel visiting the site would be limited. Finally, construction of the proposed project would be subject to applicable ordinances of the 2013 California Building Standards Code (California Code of Regulations Title 24), and implementation of Mitigation Measure GEO-1 would reduce anticipated impacts related to the proximity of earthquake faults by requiring the project to be built to withstand seismic ground shaking. As a result, impacts would be less than significant.

**Mitigation Measure GEO-1: Geotechnical Study.** Prior to the issuance of building or grading permits, the project proponent will conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site. The geotechnical study will be signed by a California-registered professional engineer and must contain field exploration data (drilling and soil sampling); laboratory testing of soil samples; and an engineering analysis to determine soil properties related, but not limited to: ground-motion acceleration parameters, the amplification properties of the subsurface units at the specific site(s), the potential for hydrocompaction to affect the proposed facilities, and the potential for collapsible, subsiding, liquefiable or expansive soils to affect the proposed project. The project proponent will implement recommendations found in the geotechnical study and use conclusions to determine the appropriate engineering to minimize geotechnical hazard impacts.

3. Seismic-related ground failure, including liquefaction?

**Less-than-Significant with Mitigation Incorporated.** Implementation of the proposed project would not expose people or structures to substantial adverse effects from seismic-related ground failure, including liquefaction. Liquefaction occurs when saturated, low-density, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where

shallow groundwater exists. Based on the *Phase I Environmental Site Assessment Otay Mesa Conveyance and Disinfection System Project, San Diego California* (November 2013) prepared by Geocon Incorporated, (Appendix D) and general knowledge of local hydrogeology, groundwater beneath the proposed project area is likely present at depths greater than 50 feet. Due to the lack of a shallow groundwater table the potential for liquefaction at the site is considered low. Additionally, the proposed project is not expected to draw a substantial amount of people, either during project activities or permanently, and the small number of personnel required for routine maintenance would be similar to the existing condition. Finally, implementation of Mitigation Measure GEO-1 would further reduce anticipated impacts related to liquefiable soils by requiring the project to be built to withstand seismic ground shaking. Therefore, people or structures would not be exposed to substantial adverse effects from seismic-related ground failure, including liquefaction. Impacts would be less than significant.

4. Landslides?

**Less-than-Significant with Mitigation Incorporated.** Implementation of the proposed project would not expose people or structures to substantial adverse effects from seismic-related ground failure, including landslides.

According to the Phase I Environmental Site Assessment (ESA) prepared by Southern California Soil & Testing, Inc. (Appendix D), the majority of the project site is relatively flat with the southern portion of the proposed project area descending towards the south into a small ravine. As such, landslide potential in the project area is negligible. Additionally, the proposed project is not expected to draw a substantial amount of people, either during project activities or permanently, and the small number of personnel required for routine maintenance would be similar to the existing condition. Finally, construction of the proposed project would be subject to applicable ordinances of the 2013 California Building Standards Code (California Code of Regulations Title 24) and subject to geotechnical recommendations as part of Mitigation Measure GEO-1, which would reduce potential geologic hazard impacts to less than significant, including those related to landslides.

b. **Result in substantial soil erosion or the loss of topsoil?**

**Less-than-Significant Impact.** The soils of Otay Mesa have generally been disturbed by farming activities for more than 100 years. Soil in the proposed project vicinity has been classified as a gravely clay loam within the Stockpen Soil Series and a loam within the Huerhuero Soil Series. These soils are moderately to well drained and have very slow infiltration rates.

Implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil. Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces.

The General Construction Permit, which was adopted by the State Water Resources Control Board under Order 2009-0009-DWQ, is required for soil disturbance activities that would be greater than 1 acre. The proposed project is set to exceed the minimum 1 acre of disturbed land and thus is subject to conditions found in the General Permit. As part of the General Permit and during construction activities, completion and implementation of a Stormwater Pollution Prevention Plan (SWPPP) is required. The SWPPP would include a site map and a description of proposed

construction activities and demonstration of compliance with relevant local ordinances and regulations, and also describes BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants. Compliance with these General Permit requirements during and after construction would ensure that there would be no significant impacts from substantial soil erosion or the loss of topsoil. Therefore, the impact is considered less than significant.

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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?**

**Less-than-Significant with Mitigation Incorporated.** Areas immediately north of the proposed project currently support similar stations on site, and thus the soils are considered adequate for the proposed project. Furthermore, potential for offsite and onsite landslides was not identified, and onsite earth materials were not considered liquefiable. Finally, construction of the proposed project would be subject to applicable ordinances of the 2013 California Building Standards Code (California Code of Regulations Title 24) and subject to geotechnical recommendations as part of Mitigation Measure GEO-1, which would reduce potential geologic hazard impacts to less than significant, including those related to unstable geologic units or soil.

d. **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?**

**Less-than-Significant Impact.** Implementation of the proposed project would not be located on expansive soil, creating substantial risks to life or property. Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. According to the Southern California Soil &Testing, Inc. Phase I ESA, native soil found on site is partially composed of clay. Although this is the case, construction of the proposed project would be subject to applicable ordinances of the 2013 California Building Standards Code (California Code of Regulations Title 24) and subject to geotechnical recommendations as part of Mitigation Measure GEO-1, which would reduce potential geologic hazard impacts, including those related to expansive soils, to less than significant.

e. **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?**

**No Impact.** The project does not propose the use of septic tanks or alternative wastewater disposal **s**ystems; therefore, no impact would occur.

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

a. **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less-than-Significant Impact.** State CEQA Guidelines Section 15064.4 provides guidance to lead agencies for determining the significance of impacts from greenhouse gas (GHG) emissions, and Section 15064.4(a) provides that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The State CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions. The County of the San Diego has not formally adopted guidelines for evaluating the significance of GHG and climate change impacts. The County's interim GHG threshold of 900 metric tons of carbon dioxide equivalent ($MTCO_2e$) is based on the California Air Pollution Control Officers Association's (CAPCOA) *CEQA & Climate Change* and is a recommended generic threshold for land use projects. However, this project is categorized as a stationary source of emissions since the project would replace two small water pumping stations with one large, modern pump station and the majority of the project's emissions would result from non-mobile exhaust sources with minimal mobile source emissions. Neither the SDAPCD nor the County recommend a stationary source GHG threshold but other air districts in the state (e.g. Bay Area Air Quality Management District and South Coast Air Quality Management District) recommend a 10,000 MTCO2e threshold for stationary source projects and this threshold is used to determine GHG impacts from this project.

Project construction would result in GHG emissions from off-road diesel equipment exhaust and emissions from employee and material delivery travel. The primary emissions occur as $CO_2$ from gasoline and diesel combustion, with more limited vehicle tailpipe emissions of methane ($CH_4$) and nitrogen dioxide ($N_2O$) and other GHG emissions related to vehicle cooling systems. Project operations would result in GHG emissions from increased energy and fuel use and result in an increase in operational and maintenance vehicle trips. In addition to the emissions sources identified in Section III.b, "Air Quality", the GHG analysis includes electricity-related GHG emissions associated with pump operations.

Construction- and operations-period $CO_2$-equivalent ($CO_2e$) emissions were estimated using CalEEMod emissions model and summed annually. The estimate of the project GHG emissions during construction and operations is provided in Table 3. Consistent with County guidance, construction emissions are summed and amortized over a 30-year project life and then added to

operational emissions. As shown in Table 3, the proposed project's emissions (the sum of amortized construction and annual operational emissions), although above the 900 MT CO2e threshold for land use projects, would be far below the 10,000 $MTCO_2e$ threshold for stationary source projects. Moreover, the project is replacing existing pump station uses that currently emit GHGs and these uses would be replaced with a more modern and efficient pump station. Consequently, the impact of construction- and operations-related emissions from the project is considered less than significant. Therefore, the project would not generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment.

**Table 3. Estimated Construction and Operational GHG Emissions**

| Project Element | $MTCO_2e$ |
|---|---|
| **Construction** | |
| Site Excavation | 204 |
| Pump Station and Yard Piping | 1,733 |
| *Total* | *1,937* |
| *Amortized Total* | *65* |
| **Operations** | |
| Worker and Delivery Vehicles | 7 |
| Natural Gas Combustion | 824 |
| Electricity Consumption | 440 |
| Emergency Generator | 42 |
| Diesel Fuel Consumption | 63 |
| *Total Annual* | *1,376* |
| ***Sum of Amortized Construction + Annual Operations*** | **1,441** |
| **GHG Significance Threshold** | **10,000** |
| **Exceed Threshold?** | **No** |
| CalEEMod emission output sheets are provided in Appendix A. | |

b. **Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

**Less-than-Significant Impact.** The County and SDAPCD have yet to adopt a qualified plan, policy, or regulation to reduce GHG emissions. Therefore, the most applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is Assembly Bill 32, which codified the state's GHG emissions reduction targets for the future. As discussed in the response to VII.a, the combined construction and operations GHG emissions would not exceed the 10,000 MTCO2e threshold for stationary source projects. Therefore, project construction and operations would not hinder implementation of Assembly Bill 32 and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact is considered less than significant.

| VIII. Hazards and Hazardous Materials | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d. Be located on a site that 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? | ☐ | ☐ | ☒ | ☐ |
| e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☒ | ☐ |

a. **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**Less-than-Significant Impact.** During the construction phase of the proposed project, construction activities would involve the use of fuel, solvents, paints, oils, grease, and caulking. Such transport, use, and disposal must be compliant with applicable regulations such as the Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976, as amended in 1984 (RCRA); and the U.S. Department of Transportation (DOT) Hazardous Materials

Regulations, including Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), and 177 (Highway Transportation), would all apply to the proposed project and/or surrounding uses, along with the local Certified Unified Program Agency (CUPA[3]) regulations. Although small amounts of solvents, paints, oils, grease, and caulking would be transported, used, and disposed of during the construction phase, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials. Additionally, the use of these products would be temporary, and standard BMPs outlined in the SWPPP as part of the Construction General Permit requirements (the proposed project is set to exceed the minimum 1 acre of disturbed land and would require a SWPPP as part of the Construction General Permit requirements) would be applied to ensure that all hazards potentially occurring during this phase of the project would not create a significant hazard to the public or to the environment. Therefore, impacts would be less than significant.

Fuels and new/waste oil are expected to be handled, stored and disposed of off-site (in the case of waste oil) as part of routine project operations. Although this is the case, transportation of these materials in and out of the proposed project area would not be part a routine project activity. Fuels and unused/waste oil would be stored on site, thus limiting the amount of vehicle trips used for disposal of waste oil and acceptance of new oil and fuels. Additionally, the site would be required to comply with all of the San Diego County Department of Environmental Health's Hazardous Materials Division CUPA requirements, such as the development of a Hazardous Materials Business Plan (HMBP). The HMBP would contain information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of on site (HMBPs are required if a business uses, handles or stores hazardous materials in quantities greater than 500 pounds of a solid substance, 55 gallons of a liquid, and 200 cubic feet of compressed gas).

Adherence to CUPA requirements would ensure proper handling, storage, and usage of hazardous materials in order to safeguard life and property and would ensure that the transport, use, and disposal of hazardous materials would not create a significant hazard to the public or environment during project operation. Impacts would be less than significant.

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?**

**Less-than-Significant Impact.** An environmental database search conducted as part of the *Phase 1 Environmental Site Assessment 870-2 Pump Station Project, Assessor's Parcel Numbers 648-010-17-11 and 648-010-23-00* (November 2013), prepared by Southern California Soil and Testing, Inc., provided no indication of historical or current contamination on the proposed project site. Furthermore, only one hazardous materials site was identified within a 1-mile radius of the proposed project—the East Mesa Detention Center, located approximately 300 feet to the southeast. The East Mesa Detention Center site was a diesel impacted soil only site that was granted closure in 2007. As such, pre-existing contamination from this site is not expected to have impacted the proposed project area. For operational analysis see response to VIII.a. above. Impacts would be less than significant.

[3] The CUPA for San Diego County is the County's Department of Environmental Health.

c. **Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**No Impact.** Implementation of the proposed project would not create any impacts associated with hazardous emissions or handling of acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There are no existing or proposed schools located within 0.25 mile of the proposed project area. The closest school, High Tech High Chula Vista, is located approximately 2.4 miles to the northwest of the project site. No impact would occur

d. **Be located on a site that 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?**

**Less-than-Significant Impact.** Implementation of the proposed project would not create any impacts associated with being included on list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Research conducted during the environmental database search provided no current or historical hazardous material information regarding the proposed project site. Furthermore, the only hazardous materials site identified within a 1-mile radius of the proposed project area does not represent a hazard risk for construction activities of the proposed project (see VIII.b.). Therefore, impacts would be less than significant

e. **Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?**

**No Impact.** The proposed project site is not within an airport land use plan area or within 2 miles of a public airport or public use airport. Therefore, no impacts would occur.

f. **Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?**

**No Impact.** The project site is not in the vicinity of a private airstrip. Therefore, no impacts would occur.

g. **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**Less-than-Significant Impact.** Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project would not result in any substantial traffic queuing along Alta Road and would not allow any construction vehicles or equipment to park or remain stationary within the roadway. Moreover, the project does not include any characteristics (e.g., permanent road closures, long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the project vicinity. All large construction vehicles entering and exiting the site would be guided by personnel, as needed, and would not linger on Alta Road.

During construction activities, the proposed project would be required to comply with applicable requirements set forth by the County of San Diego Office of Emergency Services' Operational Area Emergency Plan, County Sherriff's Department, and the San Diego County Fire Authority. The Office

of Emergency Services provides coordination of emergency response at the local level in the event of a disaster, including wildland fires. The County Sherriff and Fire Authority would respond to any emergencies in the project area. Because the project would not interfere with emergency plans, the project's impact would be less than significant.

h. **Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

**Less-than-Significant Impact**. Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. According to information obtained from CalFire, the proposed project site exists within a CalFire Very High Fire Hazard Severity Zones (CalFire 2007). Fire Hazard Severity Zones are identified as moderate, high, and very high hazard severity zones using a science-based and field-tested computer model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Factors considered include fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area.

Although fire can be a significant threat in the proposed project area, additional personnel would not be exposed to significant risk of loss, injury, or death. The proposed project is not expected to draw a substantial amount of people, either during project activities or permanently, and the number of personnel required for occasional routine maintenance would be similar to the existing condition. Additionally, the proposed project is expected to follow fire management policies, rules, and regulations established by the County of San Diego Office of Emergency Services, County Fire Authority, and the California Department of Forestry and Fire Protection. Vegetation on site would be limited, and any landscaping would be compliant with the guidance established by the above-mentioned agencies. Compliance with these established procedures, rules, and regulations would reduce the impacts related to exposure of people or structures to a significant risk of loss, injury, or death from wildfires to less than significant.

| IX. Hydrology and Water Quality | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☒ | ☐ |
| b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? | ☐ | ☐ | ☒ | ☐ |
| c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite? | ☐ | ☐ | ☒ | ☐ |
| d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite? | ☐ | ☐ | ☒ | ☐ |
| e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| f. Otherwise substantially degrade water quality? | ☐ | ☐ | ☒ | ☐ |
| g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows? | ☐ | ☐ | ☐ | ☒ |
| i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☒ | ☐ |
| j. Contribute to inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |

a. **Violate any water quality standards or waste discharge requirements?**

**Less-than-Significant Impact**. The Project site is located in San Diego, approximately 12.2 miles east of the Pacific Ocean and 3 miles north of the Mexican border. The site lies within the Poggi Canyon-Otay River hydrologic unit (HUC 910.2). This hydrologic unit encompasses 43 square miles and is part of the Otay River watershed, which discharges to the San Diego Bay (UC Davis 2013). According to the 2013 California Water Plan Update: Pilot Statewide Assessment, the Poggi Canyon-Otay River hydrologic unit scored 100 for the Native fish community, 30 for Impervious Surface: Water Quality Index, 47 for Impervious Surface: Geomorphic Condition, and 0 for Aquatic Fragmentation(UC Davis 2013).The Lower Otay Reservoir is located approximately 1 mile to the north of the project site and is currently listed by the EPA as 303(d) impaired for color, iron, manganese, nitrogen, ammonia (total ammonia), pH (high) (PCW 2014). Constituents of concern for the Otay River watershed include coliform bacteria, trace metals, and other toxic constituents (PCW 2014). Sources of these constituents include urban runoff, agricultural runoff, resource extraction, septic systems, marinas, and boating activities.

The project site is located in an area with steep topography. The project would involve approximately 15,000 cubic yards of excavation on over 2 acres. Cut slopes are proposed to be constructed to create a level pad. The gradient of the cut slopes would range from 1:1 to 3:1. The site is located approximately 557 feet above sea level. Based on topography within the project vicinity, drainage would tend to flow south and southeast of the site, where elevations decrease and an ephemeral drainage exists. The potential impacts of construction activities on water quality primarily concern sediments, turbidity, and pollutants associated with sediments. Construction-related activities that expose and move soils are primarily responsible for sediment releases. In addition, site grading would expose soils that would later be compacted. These project activities could result in wind and rain erosion of the existing onsite soils and could increase the amount of suspended solids contained in storm flows due to erosion of exposed soils during construction. Non-sediment potential contaminants that could enter water runoff from the construction site include oil, gasoline, petroleum products, and trash. All of these contaminants could contribute to the degradation of water quality. Construction for the project is expected to occur during the dry season, which would reduce the potential for stormwater runoff from the project site. Because of this, water from the site is expected to be minimal, and primarily associated with specific construction activities, such as dust control.

Because the project would disturb approximately 2.07 acres, which is more than 1 acre of land, the proposed project is subject to the General National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ) (Construction General Permit), which regulates stormwater discharges for construction activities CWA Section 402. As part of the General Permit and during construction activities, completion and implementation of a Stormwater Pollution Prevention Plan (SWPPP) by Qualified SWPPP Developers and Practitioners is required. The SWPPP would include a site map and a description of proposed construction activities and demonstration of compliance with relevant local ordinances and regulations, and also describes BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources.

In addition, because the project site is located within the jurisdiction of the San Diego RWQCB, it is subject to requirements of the Waste Discharge Requirements for Discharges of Urban Runoff from

the Municipal Separate Storm Sewer Systems (MS4s) draining the Watersheds of the County Of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority (NPDES Order No. R9-2013-0001) (San Diego MS4 Permit). According to the County of San Diego's Best Management Practice (BMP) Design Manual for Permanent Site Design, Storm Water Treatment and Hydromodification Management, the project is subject to review and approval of a Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP). The proposed project is anticipated to be a PDP because it would be considered a redevelopment project that would create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). The proposed project is anticipated to result in 1.24 acre (53,975 square feet) of new impervious area. The PDP SWQMP documents that all permanent source control and site design BMPs have been considered for the project and implemented where feasible to protect water quality. The PDP SWQMP is required to be reviewed and approved by the County.

According to the County's Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) (revised February 2016), the District will need to submit a PDP SWQMP to obtain a grading permit for the project, and an erosion and sediment control plan will need to be developed and implemented to prevent or minimize the potential for erosion to occur and ultimately reach surface waters in the project vicinity. Among several other measures, the erosion and sediment control plan would include the following BMPs:

- Project Planning;
- Good site management "Housekeeping", including waste management:
- Non-stormwater management;
- Run-on and run-off control; and
- BMPs must be site specific, seasonably appropriate, and construction plan appropriate. Dry season BMPs must plan for and address unusual rain events that may occur during the dry season (May 1 through September 30th).

As a result of compliance with local MS4 requirements, development of a PDP SWQMPs and implementation of construction stormwater BMPs, the proposed project would result in less-than-significant impacts related to water quality.

b. **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

**Less-than-Significant Impact.** The Otay River watershed management plan does not consider the watershed to be a major source of groundwater. Most groundwater in the Otay River watershed is found in the semi-consolidated San Diego Formation, and the project site lies outside of the San Diego Formation. The majority of the area within and surrounding the project site is pervious, and the project is expected to result in 0.4 acre of new impervious area. No paving is proposed for the access road connecting Alta Road with the project site. Therefore, existing natural groundwater recharge[4] is not expected to be largely impacted as a result of the project. The planned drainage

[4] Recharge is determined by the ability for water to infiltrate into the soil.

culvert along the access road just south of the project site would address groundwater seepage across the road and allow for water to contribute to flows and/or infiltrate into the soil once it reaches the ephemeral drainage. Dewatering activities are not anticipated, and the proposed project would not result in the substantial depletion of groundwater supplies or substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the groundwater table. Impacts related to lowering the groundwater table and groundwater recharge would be less than significant.

c. **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?**

**Less-than-Significant Impact**. The existing drainage patterns would not be dramatically altered as a result of the project. In addition, the project would implement an erosion and sediment control plan during construction and PDP SWQMP for operation that includes erosion and sediment control measures. As a result, changes in the drainage pattern resulting in erosion and/or siltation would be less than significant.

d. **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?**

**Less-than-Significant Impact.** The project site is not located in a 100-year flood hazard area (Federal Emergency Management Agency [FEMA] 2014). It is designated with a low-to-moderate flood risk according to FEMA floodplain maps. The existing drainage patterns would be altered by the construction of improvements to an access road just south of the proposed project. A drainage culvert would be constructed to prevent groundwater seepage across the access road. This change to the drainage pattern would not substantially increase the rate of surface runoff in a manner that would result in flood on or off site. As a result, changes to the drainage pattern impacts would be considered less than significant.

e. **Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

**Less-than-Significant Impact**. As described above, the proposed project would not alter or improve offsite drainage pattern or substantially change the amount of stormwater that would sheet flow off site as required by the MS4 Permit. Planned grading could slightly slow water runoff from the project site during construction; however, once operational, the project site would result in a minor increase in impervious surface area (when compared to the total pervious areas surrounding the project site), which would require design measures such as rain gutters and stormwater conveyance to move the water to the natural drainages off site. Drainage would continue to run in the current direction and would not be substantially greater than current runoff. Therefore, the project would not contribute to an exceedance of the existing and planned stormwater drainage, and impacts would be less than significant.

f. **Otherwise substantially degrade water quality?**

**Less-than-Significant Impact**. The proposed project would result in less-than-significant short-term construction or long-term operational impacts on water quality. Construction impacts would

be reduced through the implementation of BMPs in the erosion and sediment control plan, as required by County regulations. During operation, the proposed project is anticipated to result in 0.4 acre (17,424 square feet) of new impervious area. The proposed project would be required to comply with the County's MS4 Permit and would prepare a PDP SWQMP. The PDP SWQMP documents that all permanent source control and site design BMPs have been considered for the project and implemented where feasible to protect water quality.

A small drainage culvert is proposed at a small ephemeral drainage that occurs within an approximately 50-square-foot area along the unpaved gravel access road connecting Alta Road with the project site. Design and construction of the culvert would be in compliance with USACE, RWQCB, and CDFW permits such as a Section 404, 401 certification, and a Section 1602 Streambed Alteration Agreement, if they are needed.

Therefore, implementation of the project in compliance with existing regulations would result in less-than-significant impacts related to water quality.

g. **Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

**No Impact**. No housing is proposed on site. Therefore, no related impacts would occur.

h. **Place within a 100-year flood hazard area structures that would impede or redirect flood flows?**

**No Impact**. The project site is not located in a 100-year flood hazard area. No structures that could impede or redirect flood flows are proposed. Therefore, no impact would occur.

i. **Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

**Less-than-Significant Impact**. The proposed project does not propose any habitable structures on site and would not cause people to gather on site. Thus, the possibility of exposing people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam is remote. Impacts would be less than significant.

j. **Contribute to inundation by seiche, tsunami, or mudflow?**

**No Impact**. The project site is located over 12.2 miles away from the Pacific Ocean, and is generally considered too far away to be subject to a tsunami. Therefore, the project would not result in impacts related to potential tsunami inundation.

The closest enclosed body of water that could result in an earthquake-induced seiche is the Lower Otay Reservoir, located north of the project site. However, the project site is at a higher elevation than the reservoir and a canyon lies between the project site and the reservoir. Therefore, there would be no impact on the project site as a result of overflow caused by a seiche.

The slopes within and around the project site are vegetated with grasses and some native and nonnative vegetation. The elevation grade is not significant enough to cause a concern over mudflow. Therefore, the proposed project would not result in impacts associated with mudflows.

| X. Land Use and Planning | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |
| c. Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☒ | ☐ |

a. **Physically divide an established community?**

**No Impact.** The project site is an existing District-owned site in a rural setting that is surrounded largely by undeveloped land to the north and west, and the East Mesa Detention Facility Complex on the south and east. There are no residences near the project site, and the closest commercial development is 2 miles to the south.

The proposed project would involve the replacement of the LHPS and HHPS with the new 870-2 pump station, and some offsite improvements. The project site is within the boundaries of District property where there are the two aforementioned pump stations, the Roll Reservoir, and other related facilities and infrastructure. No changes to surrounding land uses and no barriers that would divide the community are proposed. Therefore, implementation of the proposed project would not physically divide an established community, and impacts would not occur.

b. **Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

**No Impact.** The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. The project site has a County General Plan land use designation of Public/Semi-Public Facilities. The adjoining areas to the project site are also designated as Public/Semi-Public Facilities. Figure 16 shows the zoning classification and land use designation.

The Public/Semi-Public Facilities designation identifies major facilities built and maintained for public use. Examples include institutional uses, academic facilities, governmental complexes, and community service facilities, such as County airports, public schools, correctional institutions, solid waste facilities, water facilities, and sewer facilities. This designation may include privately owned

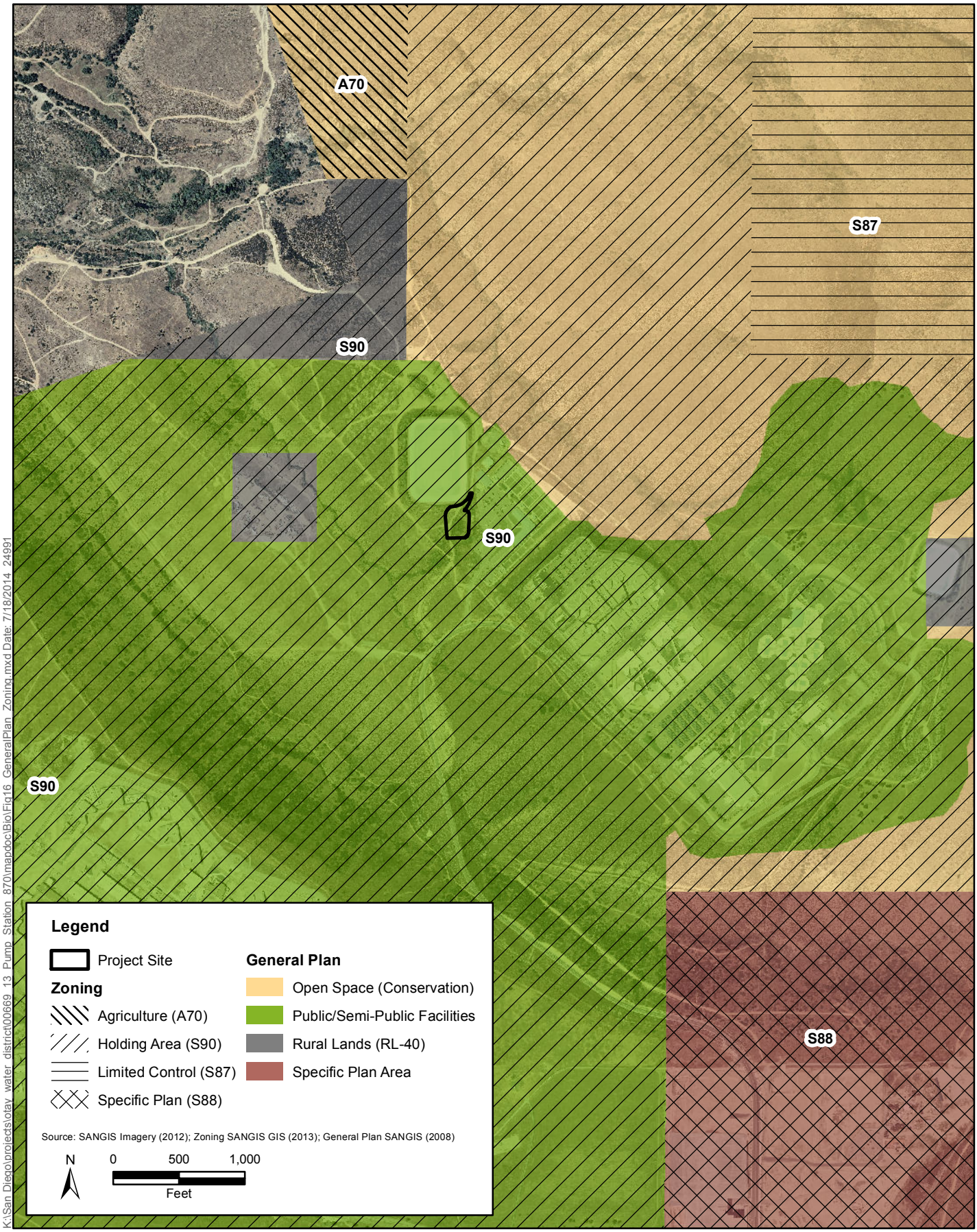


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**Figure 16**
**Zoning and General Plan Designation**
**Otay Water District Pump Station 870-2**

facilities built and maintained for public use, such as hospitals, cemeteries, and landfills. A maximum Floor Area Ratio[5] of 0.50 is permitted by this designation.

The project site is located within the Otay Subregional Plan Area of the San Diego County General Plan Area. The Otay Subregion plan area is located in the most southwesterly corner of unincorporated San Diego County, bordered by the Jamul/Dulzura subregion to the north and east, the City of Chula Vista to the west, and the international border with Mexico to the south. The subregion is characterized by the Upper and Lower Otay reservoirs, two detention facilities, a landfill, Otay Mountain, and the San Ysidro Mountains. The subregion is largely undeveloped and in public ownership (County of San Diego 2014).

The project site is zoned as S-90: Holding Area as defined by the County of San Diego's Zoning Ordinance. The Holding Area zone is used to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Uses permitted in the Holding Area zone include civic, commercial, industrial, and agricultural uses, as well as any temporary uses allowed by a Major Use Permit. Further, the Public/Semi-Public Facilities designation identifies major facilities built and maintained for public use, including community service facilities such as water and sewer facilities.

The proposed project would involve the replacement of the LHPS and HHPS with the new 870-2 pump station, and some offsite improvements. The project site is within the boundaries of District property where there are the two aforementioned pump stations, the Roll Reservoir, and other related facilities and infrastructure. The project is consistent with the underlying land use designation and zoning. Thus, the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

c. **Conflict with any applicable habitat conservation plan or natural community conservation plan?**

**Less than Significant.** The proposed project site is adjacent to the County MSCP. As discussed in Section IV, "Biological Resources," the proposed project would not conflict with the County MSCP or its provisions because its design would not result in significant and unavoidable impacts on any biological resources (see responses to IV.a, IV.b, and IV.e). In addition, the District has an approved coastal sage scrub mitigation bank from which it would use available credits to reduce potential impacts on coastal sage scrub to less-than-significant levels (see response to IV.b). Local jurisdictions are required to implement mitigation and/or encroachment standards, manage and monitor conserved lands, and conduct environmental review as required by CEQA; and the proposed project is consistent with these County MSCP provisions. Impacts would be less than significant.

[5] Nonresidential building intensity is expressed as a maximum floor-area ratio (FAR), which is the ratio of the gross building square footage on a lot to the net square footage of the lot or parcel.

| XI. Mineral Resources | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☐ | ☒ |

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?**

**No Impact.** In 1975, the Department of Conservation's California Geological Survey created a program to assist in the protection and development of mineral resources through the land use planning process. This program is mandated by the Surface Mining Reclamation Act of 1975 (SMARA). Local agencies are required to use mineral land classification maps and reports when developing land use plans and when making land use decisions.

SMARA requires that the State Mining and Geology Board map areas throughout the state that contain regionally significant mineral resources. Aggregate mineral resources within the state are classified by the board through application of the Mineral Resource Zone (MRZ) system. The MRZ system is used to map all mineral commodities within identified jurisdictional boundaries and classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors:

1. MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
2. MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
3. MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.
4. MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

The project site is located in MRZ-3, indicating that sufficient data are not currently available to determine the significance of any mineral deposits that may be present (Miller 1996). According to the State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, no oil wells exist on the project site (California Department of Conservation 2014).

The proposed project would not result in a loss of known mineral resources. The proposed project is not located within a MRZ-2 zone. The project site is located in MRZ-3, and thus the significance of any potentially present mineral resources cannot be determined due to limited data. Further, within the existing District site, the project would replace two existing pump stations with a new pump station, add decomposed granite to an existing dirt access road, and install a sewer lift station and sewer conveyance infrastructure to dispose of wastewater. These project components would not preclude the ability to explore for resources at some future date, which could still occur if desired and would be allowed by current regulations. Therefore, the proposed project would not result in the loss of availability of a known mineral resource, and no impact would occur.

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?**

**No Impact.** See response to XI.a above. The proposed project is not located within a locally important mineral resource discovery site (Miller 1996). The project site has a General Plan designation of Public/Semi-Public facilities and is part of the Otay Subregional Plan Area. Thus, it is unlikely that the proposed project would be located on a site or have any impacts associated with the loss of availability of a locally important mineral resource recovery site. As a result, implementation of the project would not result in the loss of availability of a locally important mineral resource recovery site, and no impact would occur.

| XII. Noise | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

a. **Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?**

**Less-than-Significant Impact.** An ICF International noise specialist analyzed and assessed potential noise impacts from the proposed project. The analysis utilized information provided by the District, and data and calculation techniques provided by the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA). Findings indicate that the project would comply with the County of San Diego noise standards.

***Applicable Regulations – Construction Noise.*** The County of San Diego's Code of Regulatory Ordinances, Section 36.4 (i.e., Title 3, Division 6, Chapter 4), seeks to control construction noise by placing limits both on the hours during which construction activity may occur and on the average noise levels that may be generated during those hours, as follows.

- Construction equipment may not be operated between the hours of 7 p.m. and 7 a.m., or at any time on a Sunday or holiday.
- During the permitted hours of 7 a.m. to 7 p.m., noise from construction equipment may not exceed an 8-hour average noise level (i.e., 8-hour Leq) of 75 dBA.

***Applicable Regulations – Operational Noise.*** The San Diego County Noise Ordinance establishes sound level limits that apply to operational noise impacting various land uses as summarized in Table4, below.

**Table 4. County of San Diego General Noise Standards**

| Zone | Time | 1-Hour Average (Leq) Sound Level Limits, dBA |
|---|---|---|
| (1) RS, RD, RR, RMH, A70, A72, S80, S81, S90, S92, RV, and RU with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre | 7 a.m. to 10 p.m.<br>10 p.m. to 7 a.m. | 50<br>45 |
| (2) RRO, RC, RM, S86, V5, RV and RU with a General Plan Land Use Designation density of 10.9 or more dwelling units per acre | 7 a.m. to 10 p.m.<br>10 p.m. to 7 a.m. | 55<br>50 |
| (3) S94, V4, and all commercial uses | 7 a.m. to 10 p.m.<br>10 p.m. to 7 a.m. | 60<br>55 |
| (4) V1, V2 | 7 a.m. to 7 p.m.<br>7 p.m. to 10 p.m. | 60<br>55 |
| V1 | 10 p.m. to 7 a.m. | 55 |
| V2 | 10 p.m. to 7 a.m. | 50 |
| V3 | 7 a.m. to 10 p.m.<br>10 p.m. to 7 a.m. | 70<br>65 |
| (5) M50, M52, and M54 | Anytime | 70 |
| (6) S82, M56, and M58 | Anytime | 75 |
| (7) S88 | *See notes below* | |

**Note:** The sound level limits in the table that apply in an S88 zone depend on the use being made of the property. The limits in subsection (1) apply to property with a residential, agricultural, or civic use. The limits in subsection (3) apply to property with a commercial use.
Source: Table 36.404 *Sound Level Limits in Decibels (dBA)*, County of San Diego's Code of Regulatory Ordinances.

***Short-Term Construction Noise.*** Noise from construction of the proposed project would not exceed County Noise Ordinance limits at the nearest Noise-Sensitive Land Use (NSLU). Construction of the proposed pump station, sewer lift station, and sewer main would take approximately 15 months. The contractor for the project would comply with all construction activity time limits required by the County Noise Ordinance. The project would also adhere to all construction noise regulations of the County Noise Ordinance.

The closest developed land use to the project is the East Mesa Detention Facility's adjacent Firearms Training Facility located to the east. Beyond this facility to the southeast is the East Mesa Detention Complex. The firearms facility is the main existing source of noise in the project vicinity, and users of the facility are exposed to frequent high noise levels as the result of firearm discharge; therefore, the firearms facility is not considered an NSLU. The closest NSLU is the East Mesa Detention Complex, which has exterior areas of human use located approximately 1,000 feet from the center of the

proposed pump station location and approximately 700 feet from the nearest section of the proposed sewer main alignment.

Based on information provided by the project engineer, construction would occur in two main phases: (1) site excavation (occurring during the first 30 work days); and (2) pump station and yard piping construction (occurring during the subsequent 300 work days). Each phase would utilize an assortment of construction equipment items. Not all of these items would necessarily operate on site during a typical day, and, if they did, it is unlikely that they would all operate simultaneously. However, to provide a conservative estimate, noise analyses were conducted assuming all equipment items would operate during each work day. The construction equipment schedule for each phase was provided by the project engineer (Carollo), and the analysis was conducted using typical construction equipment noise levels and calculation techniques provided by the FTA and FHWA. The analyses are summarized in Table 5; referring to the table, construction noise levels are estimated to range from 62 to 68 at the detention complex. These noise levels would be well below the applicable County noise standard of 75 dBA (8-hour Leq). Therefore, the impact from construction noise would be less than significant.

**Table 5. Summary of Construction Noise Analyses**

| Case Analyzed/ Equipment Item | Maximum Noise Level at 50 feet (dBA)[a] | Number of Units[b] | Usage Factor[a,c] | Distance to Receiver (feet)[d] | Average Noise Level at Receiver (dBA) |
|---|---|---|---|---|---|
| **Phase 1, Site Excavation, at Pump Station Site** | | | | | |
| Dozer | 85 | 1 | 0.4 | 1,000 | 55 |
| Dump Truck | 84 | 3 | 0.4 | 1,000 | 59 |
| Front Loader | 85 | 1 | 0.4 | 1,000 | 55 |
| Work Truck | 84 | 1 | 0.4 | 1,000 | 54 |
| Pickup Truck | 75 | 1 | 0.4 | 1,000 | 45 |
| **Total for All Equipment** | | | | | **62** |
| **Phase 1, Site Excavation, at Sewer Main** | | | | | |
| Dozer | 85 | 1 | 0.4 | 700 | 58 |
| Dump Truck | 84 | 3 | 0.4 | 700 | 62 |
| Front Loader | 85 | 1 | 0.4 | 700 | 58 |
| Work Truck | 84 | 1 | 0.4 | 700 | 57 |
| Pickup Truck | 75 | 1 | 0.4 | 700 | 48 |
| **Total for All Equipment** | | | | | **65** |

| Case Analyzed/ Equipment Item | Maximum Noise Level at 50 feet (dBA)[a] | Number of Units[b] | Usage Factor[a,c] | Distance to Receiver (feet)[d] | Average Noise Level at Receiver (dBA) |
|---|---|---|---|---|---|
| **Phase 2, Station and Piping, at Pump Station** | | | | | |
| Excavator | 85 | 1 | 0.4 | 1,000 | 58 |
| Backhoe | 80 | 1 | 0.4 | 1,000 | 53 |
| Forklift | 84 | 1 | 0.4 | 1,000 | 57 |
| Dump Truck | 84 | 1 | 0.4 | 1,000 | 57 |
| Crane | 83 | 1 | 0.16 | 1,000 | 52 |
| Work Truck | 84 | 2 | 0.4 | 1,000 | 60 |
| Pickup Truck | 75 | 2 | 0.4 | 1,000 | 51 |
| Concrete Pump | 82 | 1 | 0.2 | 1,000 | 52 |
| Paving Machine | 89 | 1 | 0.5 | 1,000 | 63 |
| Concrete Truck | 82 | 1 | 0.2 | 1,000 | 52 |
| Tractor Trailer | 84 | 1 | 0.4 | 1,000 | 57 |
| **Total for All Equipment** | | | | | **68** |
| **Phase 2, Station and Piping, at Sewer Main Alignment** | | | | | |
| Excavator | 85 | 1 | 0.4 | 700 | 55 |
| Backhoe | 80 | 1 | 0.4 | 700 | 50 |
| Forklift | 84 | 1 | 0.4 | 700 | 54 |
| Dump Truck | 84 | 1 | 0.4 | 700 | 54 |
| Crane | 83 | 1 | 0.16 | 700 | 49 |
| Work Truck | 84 | 2 | 0.4 | 700 | 57 |
| Pickup Truck | 75 | 2 | 0.4 | 700 | 48 |
| Concrete Pump | 82 | 1 | 0.2 | 700 | 49 |
| Paving Machine | 89 | 1 | 0.5 | 700 | 60 |
| Concrete Truck | 82 | 1 | 0.2 | 700 | 49 |
| Tractor Trailer | 84 | 1 | 0.4 | 700 | 54 |
| **Total for All Equipment** | | | | | **64** |

[a] Obtained or estimated from: *Transit Noise and Vibration Impact Assessment*, FTA, (FTA-VA-90-1003-06), May 2006 and/or *FHWA Roadway Construction Noise Mode*l (RCNM), Version 1.1, December 8, 2008.

[b] Noise level increase = 10×log(number of units)

[c] Usage Factor is the percentage of time equipment is operating in noisiest mode while in use.

[d] Noise level decrease = 10×log(usage factor). Noise level decreases at a rate of 6 dBA per doubling of distance from source to receiver.

***Long-Term Operational Noise.*** Operational noise associated with the proposed project would consist of various mechanical equipment (pumps, motors, etc.) operating at the pump station on a daily basis. A new emergency generator would be installed, but would only be run in case of emergency when electrical service from SDG&E is unavailable, or for short periods during scheduled maintenance. The majority of the new equipment, including the emergency generator, would be enclosed within a new pump station building, which would be designed to comply with the County's noise ordinance standards. The new pumps and motors would replace similar existing onsite

equipment that is currently located outside (i.e., without the benefit of acoustical shielding from a pump station building). In addition, it is noted that the closest NSLU, the detention center to the southeast, is located approximately 1,000 feet away from the proposed pump station. Therefore, exposure of persons to or generation of noise levels in excess of noise ordinance standards would not occur, and noise impacts as a result of the project would be less than significant.

b. **Expose persons to or generate excessive groundborne vibration or groundborne noise levels?**

**Less-than-Significant Impact.** The proposed project would not generate excessive groundborne vibrations or groundborne noise levels. During construction, short-term vibration would be generated in the immediate vicinity of the project site, but high-impact construction methods, such as pile driving or blasting, would not be used. As noted previously, the contractor for the project would comply with all construction activity time limits required by the County Noise Ordinance.

The FTA (2006) provides guidelines for assessing the significance of vibration from construction activities. These guidelines address both potential annoyance/interference with vibration-sensitive land uses and potential vibration-induced building damage. For land uses that include buildings where people sleep, such as detention facilities, the FTA indicates that possible annoyance/interference impacts may occur at groundborne vibration levels of 72 to 80 VdB[6]. For assessment of potential building damage, the FTA provides the criteria in terms of the peak particle velocity (PPV)[7] as indicated in Table 6, below; these criteria would apply to all nearby buildings, including those at the neighboring firearms facility. All the nearby buildings are relatively modern engineered structures; therefore, the indicated criterion of 0.3 inches per second PPV is considered appropriate.

**Table 6. FTA Criteria for Potential Building Damage Due to Groundborne Vibration**

| Building Category | PPV Criterion (inches/second) |
|---|---|
| Reinforced-concrete, steel or timber (no plaster) | 0.5 |
| Engineered concrete and masonry (no plaster) | 0.3 |
| Non-engineered timber and masonry buildings | 0.2 |
| Buildings extremely susceptible to vibration damage | 0.12 |

Vibration levels from construction equipment attenuate as they radiate from the source. The equation to determine the vibration velocity level ($L_V$) at a specified distance from the equipment states that

$$L_V = L_V(25\text{ft}) - 30 \times \log(D/25)$$

where $L_V(25\text{ft})$ is the vibration velocity level at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (FTA 2006).

[6] VdB is a decibel measure of vibration velocity level that describes the root mean square (rms) velocity amplitude of the vibration on a logarithmic scale, referenced to 1 micro-inch/second.

[7] PPV is the peak particle velocity, measured in inches per second (in/s), and describes the maximum instantaneous peak amplitude of the vibration velocity.

The equation to determine PPV at a specific distance states that

$$PPV = PPV_{ref} \times (25/D)^{1.5}$$

where $PPV_{ref}$ is the PPV at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (FTA 2006).

The highest vibration levels associated with project construction would be associated with heavy equipment such as large bulldozers. Reference vibration levels for this type of equipment are 87 dBV and 0.089 inches per second PPV (FTA 2006) at a distance of 25 feet. The closest buildings that would be sensitive to potential annoyance/interference from construction activity would be at the detention complex, approximately 700 feet east of the sewer main alignment. At this distance, the vibration velocity level is estimated to be 44 VdB, which is well below the potential impact criterion of 72 to 80 VdB. The closest structures that would be sensitive to potential building damage from construction vibration would be at the firearms training facility, approximately 300 feet east of the project site. At this distance, the PPV is estimated to be 0.002 inches per second, which is well below the potential impact criterion of 0.3 inches per second. Therefore, impacts from groundborne vibration or groundborne noise would be less than significant.

c. **Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Less-than-Significant Impact.** See response to XII.a.

d. **Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Less-than-Significant Impact**. See response to XII.a.

e. **Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?**

**No Impact.** The nearest airport is Brown Field Municipal Airport, which is approximately 2.5 miles from the project site. Referring to the airport's Land Use Compatibility Plan (San Diego County Airport Land Use Commission 2010), the project site is well outside both the existing and future 60 dB CNEL noise contour for the airport. Therefore, no impacts would occur.

f. **Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?**

**No Impact.** There are no private airstrips in the project vicinity. No one residing or working in the project area would be exposed to excessive noise levels from private airstrips. No impact would occur.

| XIII. Population and Housing | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)? | ☐ | ☐ | ☒ | ☐ |
| b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

a. **Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?**

**Less-than-Significant Impact.** The proposed project area is located in the Otay Subregional Plan Area in unincorporated San Diego County. Unincorporated San Diego County has a total area of 3,572 square miles, and population was estimated at 484,604 in 2012 (SANDAG 2014a). The Otay Community Plan Area encompasses an area of 28,474 acres and had a population of 4,695 in 2008 (SANDAG 2014b). Total housing units in unincorporated San Diego County were estimated to be 169,142 in 2010, while there were 5 housing units estimated in the Otay Community Plan Area in 2008 (SANDAG 2014a, 2014b). The proposed project site is an existing Otay Water District site with the Roll Reservoir and LHPS and HHPS to the north and the R.J. Donovan Correctional Facility and East Mesa Detention Facility Complex (including the Firing Range) on the south and east, respectively. The rest of the surrounding area is undeveloped and in its natural state.

The proposed project does not include housing or commercial development that would directly affect the number of residents or employees in the area and would not contribute to the creation of additional housing or jobs in the Otay Community Plan Area. Also, the proposed project would not extend roads or involve the addition of any growth-inducing infrastructure. The proposed project would replace the LHPS and HHPS with the proposed 870-2 pump station and include some offsite improvements, such as access road improvements and contraction of a sewer lift station and sewer main designed to service the project. The new pump station would be able to better accommodate the water demand of the existing District service area and would be able to accommodate water from the OMDCDS. As such, impacts would not be considered substantially growth-inducing either directly or indirectly because the project would be built to accommodate the existing population needs and to accommodate the planned OMDCDS. Impacts would be less than significant.

b. **Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?**

**No Impact.** There are no existing housing units on the proposed project site. The project area is located in a rural setting, and the project site is in an area with existing pump stations, the Roll Reservoir, and other related facilities. The proposed project does not involve the construction or demolition of housing. Therefore, the proposed project would not displace people or housing, and there would be no impact.

c. **Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?**

**No Impact**. The proposed project would not displace any people because no residents are located on the project site. Thus, the construction of replacement housing is not required elsewhere. No impact would occur.

| XIV. Public Services | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: | | | | |
| Fire protection? | ☐ | ☐ | ☐ | ☒ |
| Police protection? | ☐ | ☐ | ☐ | ☒ |
| Schools? | ☐ | ☐ | ☐ | ☒ |
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other public facilities? | ☐ | ☐ | ☐ | ☒ |

a. **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:**

**Fire protection?**

**No Impact.** Impacts of the project on fire service would be beneficial. The proposed project would be designed to the latest fire prevention standards and incorporate the requirements of the 2013 California Building Standards Code. Much of the equipment would be installed inside the new pump station. The older LHPS and HHPS, which in both cases have their equipment outside, would be removed. Moreover, the proposed project would improve the dirt access road to Alta Road by paving the road and building a culvert over a drainage feature, which would improve access to the site and exiting from the site. No impact would occur.

**Police protection?**

**No Impact.** Implementation of the proposed project would not increase the demand for or impact response times of police protection services. Impacts of the project on police service would be beneficial. The proposed project would improve access to and from the project site by applying decomposed granite to the existing dirt access road and covering a drainage feature with a culvert. Moreover, two pump stations would be removed and replaced with the single pump station proposed by the project. Also, potential vandalism and theft would be reduced by enclosing many of the pumps, motors, and generator associated with the pump station in the proposed pump station building. No impact would occur.

**Schools?**

**No Impact.** The proposed project would serve the existing District service area customers and would be able to handle water conveyed from the OMDCDS. The project itself would not generate a demand for public school services. No impact would occur.

**Parks?**

**No Impact.** The proposed project would serve the existing District service area customers and would be able to handle water conveyed from the OMDCDS. The project itself would not generate a demand for parks or park services. Therefore, no impacts would occur.

**Other public facilities?**

**No Impact.** The proposed project would not affect other public facilities. No impact would occur.

| XV. Recreation | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

a. **Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**No Impact.** The proposed project would include the replacement of the LHPS and HHPS with the proposed 870-2 pump station. Typically, residential uses increase the use of parks and recreational facilities. No residential uses would be constructed under the proposed project. Therefore, the proposed project is not anticipated to increase the use of existing neighborhood and regional parks. Consequently, substantial physical deterioration of these facilities would not occur or be accelerated. No impact would occur.

b. **Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

**No Impact.** The proposed project would include the replacement of two pump stations that have reached their capacity. No residential uses would be developed under the proposed project. Additionally, the proposed project would not include the construction of new recreational facilities or the expansion of existing recreational facilities. The construction or expansion of recreational facilities would not be required. No impact would occur.

| XVI. Transportation/Traffic | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☒ | ☐ |
| c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| e. Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |
| f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |

a. **Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

**Less-than-Significant Impact.** The number of vehicle trips is not anticipated to substantially increase under construction and operation of the proposed project. Construction and demolition activities would require additional trips as vehicles access the project site. In total, approximately 5,000 dump truck trips, 140 concrete truck trips, 300 tractor trailer trips, 1,260 work truck trips, 1,260 pickup truck trips, and 3,780 crew vehicles trips will take place over a 330 day period, which equates to approximately 36 trips per day. These additional trips would be temporary in nature and

would cease once construction activities are completed. Moreover, they would occur on low traveled roadways such as Alta Road near the project site.

Operation of the proposed project would not result in substantially greater vehicle trips and would be similar to current conditions at the project site. Operational trips may consist of a single daily trip to the pump station and a weekly trip for chloramines delivery and other chemicals used at the site. Level of service would not substantially change under the proposed project because the proposed pump station would replace two existing pump stations.

Currently an existing partially paved road provides access to the project site. This road is used by District staff and contractors, and is available for emergency personnel if needed. As described in Chapter 1, "Project Description," the access route to the site under the proposed project would be paved. The paved road would also serve as traction for vehicles tires, particularly during or after rain. Moreover, a culvert would be constructed over an existing natural drainage feature, which would stop vehicles from entering the drainage and potentially becoming stuck during or after heavy rains. Therefore, impacts on the existing circulation system would be less than significant.

b. **Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

**Less-than-Significant Impact.** There are no designated roads or highways near the project site. Furthermore, the proposed project would require only 24 average daily trips (ADTs) over the 330-day construction period, and many of these trips would take place outside peak hours. During operation, only 1-2 ADTs are anticipated, which is substantially less than the congestion management program's threshold of 50 peak hour trips or 200 ADTs. Impacts would be less than significant.

c. **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

**No Impact.** The proposed project would be a single story structure adjacent to much larger facilities. Therefore, the project would not create any change in air traffic patterns, and no impact would occur.

d. **Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No Impact.** See XVI.a. The improvements to the existing dirt access road would improve the safety of access to the project site. No impact would occur.

e. **Result in inadequate emergency access?**

**Less-than-Significant Impact.** See XVI.a. The improvements to the existing dirt access road would allow police and fire protection vehicles to more easily access the project site. No impact would occur.

f. **Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

**No Impact.** The proposed project would include the replacement of existing pump facilities and associated improvements, including improvements to an existing access road. Implementation of the proposed project would not change or impede any established policies, plans, or programs that support alternative forms of transportation. No impact would occur.

| XVII. Utilities and Service Systems | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☒ | ☐ |
| b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☒ | ☐ | ☐ |
| c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☒ | ☐ |
| d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed? | ☐ | ☐ | ☒ | ☐ |
| e. Result in a determination by the wastewater treatment provider that 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? | ☐ | ☐ | ☐ | ☒ |
| f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☒ | ☐ |
| g. Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

a. **Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

**Less-than-Significant Impact.** The new pump station 870-2 would be linked to a proposed sewer lift station and sewer main that would travel underground along the dirt access road that runs to Alta Road. The sewer main would tie in to the sewer main that is present under Alta Road, where it would eventually reach the Point Loma Wastewater Treatment Plant (PLWTP) located in the City of San Diego. The PLWTP treats approximately 175 million gallons of wastewater per day generated in a 450-square-mile area by more than 2.2 million residents. The plant has a treatment capacity of 240 mgd. Thus, the project's small contribution of wastewater from occasional restroom use and from chemical water waste would not pose a capacity issue for the PLWTP. Therefore, impacts related to wastewater treatment would be less than significant.

b. **Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Less-than-Significant with Mitigation Incorporated.** The proposed pump station would connect to the existing conveyance system, which consists of water line stubs at the project site for future high pressure potable water and future recirculation. As discussed under XVII.a, the project would also construct and operate a sewer lift station and a sewer main line to Alta Road. Moreover, the proposed project would construct and operate a water pump station and remove two existing pump stations, the LHPS and HHPS. Impacts associated with these water and wastewater facilities are analyzed for each respective resource area in this IS/MND. Significant but mitigable impacts have been identified for biological resources, cultural resources, and geology/soils. See Sections IV, V, and VI for a discussion of the impacts and the required mitigation measures.

c. **Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Less-than-Significant Impact.** The proposed project would include onsite stormwater drainage facilities that would be designed to continue releasing stormwater into the existing natural drainage that is south of the proposed pump station. The proposed project would increase the impervious surface area by approximately 0.4 acre. This increase in impervious surface area is negligible given the area is largely undeveloped and much of the runoff would percolate into the soil or move through the existing ephemeral stream to the south. Moreover, the proposed project would have to comply with stormwater regulations and standards as described in Section IX, "Hydrology and Water Quality." Given the minimal addition of site-specific stormwater infrastructure, no significant impacts would occur with project implementation.

d. **Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?**

**Less-than-Significant Impact.** The proposed project would not require new or expanded water entitlements. The only water that would be used by the proposed project would be water for dust suppression and cleaning during construction, and water for restroom use and cleaning during project operation. This amount of water would be minimal and would not have a significant effect on existing water supplies. Impacts would be less than significant.

e. **Result in a determination by the wastewater treatment provider that 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?**

**No Impact.** See XVII.a.

f. **Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

**Less-than-Significant Impact.** Solid waste would be generated during construction of the proposed project that would be disposed of or diverted in accordance with the appropriate regulations such as Assembly Bill 939, including opportunities to reuse and recycle construction materials. Minimal long-term solid waste would be generated by the proposed project and would largely consist of waste brought on site by visiting District staff or District vendors servicing the pump station and

would likely consist of food wrappings, drink containers, and cleaning products. The small amount of solid waste would be easily accommodated by existing landfills. Therefore, no impact related to landfill capacity would occur.

g. **Comply with federal, state, and local statutes and regulations related to solid waste?**

**No Impact**. See response to XVII.f. The proposed project would comply with all state and local solid waste regulations. No impact would occur.

| XVIII. Mandatory Findings of Significance | Potentially Significant Impact | Less-than-Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| a. Does the project have the potential to 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? | ☐ | ☒ | ☐ | ☐ |
| 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.) | ☐ | ☒ | ☐ | ☐ |
| c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

a. **Does the project have the potential to 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?**

**Less than Significant with Mitigation Incorporated.** As discussed in Section IV, "Biological Resources," the project site currently has the potential to support one special status species: least Bell's vireo (*Vireo bellii)*. However, Mitigation Measures BIO-2 would reduce any potentially significant impacts to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the CDFW or USFWS to less-than-significant levels.

As discussed in Section V, "Cultural Resources," the proposed project would not eliminate important examples of the major periods of California history or prehistory. The proposed project would incorporate Mitigation Measure CUL-1 to reduce potential impacts related to the proposed project in the event that paleontological resources are identified during ground-disturbing activities. Therefore, impacts would be less than significant with the incorporation of mitigation measures.

Implementation of the proposed project would not result in substantial degradation of the quality of the environment, and potential impacts associated with construction of the proposed project would not substantially affect the habitat of a wildlife species, cause a species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, affect a rare or endangered species, or eliminate important examples of the major periods of California history or prehistory.

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.)**

**Less than Significant with Mitigation Incorporated.** A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact identified from past, present, and reasonably foreseeable future projects for each resource area. Past projects that have occurred in the area within 1 mile of the project site include the Roll Reservoir, LHPS, HHPS, and the East Mesa Detention (including Firing Range) and R.J. Donovan Correctional Facilities. These projects represent the existing condition. Present projects are projects that are currently under construction. There are no known projects currently under construction within 1 mile of the project site. Future projects have development applications in process or approved, but no physical construction has yet occurred. The only project with an application in process for future development is the East Mesa Road Paving Project, located approximately 0.65 mile from the project site. The East Mesa Road Paving Project would pave a dirt and gravel service road that encircles a small reservoir in order to facilitate improved access around the reservoir.

Past, present, and reasonably foreseeable future projects in the area have had relatively minor impacts individually due to the still largely open space and natural setting immediately surrounding these projects within 1 mile of the project site. These projects have not contributed to a significant cumulative impact in regard to agricultural and forestry resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, and utilities. However, these significant cumulative impacts have occurred from loss of biological resources, the change to the natural aesthetic setting, and the cumulative contribution to global climate change from greenhouse gas emissions. Moreover, projects that affect the air basin have resulted in significant cumulative impacts on criteria pollutants such that the basin is currently in nonattainment for $O_3$, PM2.5, and PM10.

The project would have no impact on land use and planning, mineral resources, population and housing, public services, and recreation and therefore would not contribute to a cumulative impact even if one was identified. Moreover, the proposed project's impacts on agricultural and forestry, hazards and hazardous materials, hydrology and water quality, noise, transportation, and utilities would be slight and would not amount to an incrementally cumulative considerable contribution to these resource areas such that it would cause these impacts to rise to a level of cumulative significance. Resource areas where the proposed project could potentially contribute to cumulative impacts are aesthetics, air quality, biological resources, cultural resources, geology and soils, and greenhouse gas emissions. However, the project's impact on aesthetics is minimal due to the small building size adjacent to much larger structures and facilities such as the Roll Reservoir and the East Mesa Detention Facility. Air quality thresholds are cumulative in nature as they are designed to identify a project's significant contribution to existing air emissions determined to be currently at hazardous levels. The project's air emissions are substantially under these cumulative thresholds. The project's impacts on biological resources would be fully mitigated as described in Section IV. Mitigation would ensure impacts are less than significant, and no cumulatively considerable contribution from the project would occur. The project's effect on cultural resources is limited to potential impacts on fossil resources, which would be fully mitigated by providing a qualified monitor during excavation activities. The project's impacts on geology and soils would be specific to

the project site and would not exacerbate an existing geology and soils issue or affect the cumulative projects in the project's vicinity. Finally, the project's level of greenhouse gas emissions are well under the cumulative threshold for greenhouse gases set by the County of San Diego. Thus, the proposed project's incremental contribution to significant cumulative impacts from past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

c. **Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

**Less than Significant with Mitigation Incorporated.** Construction and operation of the proposed project would be within District-owned property that allows for facilities such as the proposed pump station, sewer lift station, and sewer main. As discussed in detail in this Initial Study, the proposed project would not have significant and unavoidable environmental effects that would cause direct or indirect adverse effects on humans. Significant but mitigable impacts would occur on biological resources, cultural resources, and geology/soils. After mitigation is incorporated, impacts related to these resources as they affect human beings directly or indirectly would be less than significant.

# Chapter 4
# References


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Appendix A

# Air Emissions Calculations for Pump Station 870-2, ICF International, September 2016

# OWD 870-2 Pump Station

**San Diego County, Winter**

## 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 | 2.07 | 1.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 40 |
| **Climate Zone** | 13 | | | **Operational Year** | 2015 |
| **Utility Company** | San Diego Gas & Electric | | | | |
| **CO2 Intensity (lb/MWhr)** | 684.8 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor updated to reflect 2015 operational year

Land Use - 2.07 acres clear and grub based on updated data

Construction Phase - 30 days for site excavation and demo, 300 for construction, starts 1/1/2015

Off-road Equipment - Demo - dozer with ripper and wheeled loader

Off-road Equipment - Excavation and clearing - dozer with ripper and wheeled loader.

Off-road Equipment - Pump Station and Yard Piping Const - 1 each excavator, backhoe, forklift, crane, concrete pump, paving machine

Trips and VMT - 5,000 haul truck trips assuming 10 CY trucks and 25,000 CY of material hauling (12,000 import + 13,000 export). 300 tractor trailer trips during construction. Vendors changed to HHDT and 20-mi trip distance for concrete trucks.

Demolition -

Grading - -15,000 CY exported for dust. 13,000 trucked offsite.

Vehicle Trips - 4 trips/weekday, 1 each weekend day, to represent work trips, maint trips, and material deliveries. Fleet changed to 25% HHDT and 75% LDT1.

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Consumer Products -

Energy Use - 1,411,804 kWh/yr from engineers. 153,456 therm = 15,341,968.74 kBTU

Operational Off-Road Equipment - 2011.5 HP Emergency Generator, 50 hrs/yr, 1 hr/day worst-case
Diesel use for other equipment based on 329 HP pump, EPA defaults for fuel consumption and diesel weight, and 15 gallons/day.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | Area_Nonresidential_Interior | 2 | 0 |
| tblConstructionPhase | NumDays | 220.00 | 300.00 |
| tblConstructionPhase | NumDays | 6.00 | 30.00 |
| tblEnergyUse | T24E | 0.00 | 1,411,804.00 |
| tblEnergyUse | T24NG | 0.00 | 15,341,968.74 |
| tblGrading | AcresOfGrading | 15.00 | 2.07 |
| tblGrading | MaterialExported | 0.00 | 15,000.00 |
| tblGrading | MaterialImported | 0.00 | 12,000.00 |
| tblLandUse | LandUseSquareFeet | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblLandUse | LotAcreage | 0.00 | 2.07 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 6.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 50.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 2,012.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 329.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 1.10 |
| tblOperationalOffRoadEquipment | OperLoadFactor | 0.74 | 0.84 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 720.49 | 684.8 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblTripsAndVMT | HaulingTripNumber | 3,375.00 | 5,000.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 20.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 140.00 |
| tblTripsAndVMT | VendorVehicleClass | HDT_Mix | HHDT |
| tblTripsAndVMT | VendorVehicleClass | HDT_Mix | HHDT |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 20.00 |
| tblVehicleEF | HHD | 0.02 | 0.25 |
| tblVehicleEF | HHD | 0.02 | 0.25 |

| | | | |
|---|---|---|---|
| tblVehicleEF | HHD | 0.02 | 0.25 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |

| | | | |
|---|---|---|---|
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleTrips | CNW_TTP | 0.00 | 41.00 |
| tblVehicleTrips | CW_TTP | 0.00 | 59.00 |
| tblVehicleTrips | DV_TP | 0.00 | 5.00 |
| tblVehicleTrips | PB_TP | 0.00 | 3.00 |
| tblVehicleTrips | PR_TP | 0.00 | 92.00 |
| tblVehicleTrips | ST_TR | 0.00 | 1.00 |
| tblVehicleTrips | SU_TR | 0.00 | 1.00 |
| tblVehicleTrips | WD_TR | 0.00 | 4.00 |

## 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 | | | | | |
| 2015 | 7.0160 | 82.5981 | 63.0970 | 0.1476 | 4.7734 | 2.4774 | 7.2509 | 1.6933 | 2.3101 | 4.0034 | 0.0000 | 14,986.8888 | 14,986.8888 | 0.6378 | 0.0000 | 15,000.2822 |
| 2016 | 6.1170 | 57.4931 | 50.8854 | 0.1273 | 2.6037 | 1.6917 | 4.2954 | 0.7115 | 1.6246 | 2.3361 | 0.0000 | 12,599.9061 | 12,599.9061 | 0.4615 | 0.0000 | 12,609.5972 |
| **Total** | **13.1330** | **140.0913** | **113.9824** | **0.2750** | **7.3771** | **4.1691** | **11.5463** | **2.4049** | **3.9347** | **6.3396** | **0.0000** | **27,586.7949** | **27,586.7949** | **1.0993** | **0.0000** | **27,609.8793** |

### 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 | | | | | |
| 2015 | 7.0160 | 82.5981 | 63.0970 | 0.1476 | 4.7734 | 2.4774 | 7.2509 | 1.6933 | 2.3101 | 4.0034 | 0.0000 | 14,986.8888 | 14,986.8888 | 0.6378 | 0.0000 | 15,000.2822 |
| 2016 | 6.1170 | 57.4931 | 50.8854 | 0.1273 | 2.6037 | 1.6917 | 4.2954 | 0.7115 | 1.6246 | 2.3361 | 0.0000 | 12,599.9061 | 12,599.9061 | 0.4615 | 0.0000 | 12,609.5972 |
| **Total** | **13.1330** | **140.0913** | **113.9824** | **0.2750** | **7.3771** | **4.1691** | **11.5463** | **2.4049** | **3.9347** | **6.3396** | **0.0000** | **27,586.7949** | **27,586.7949** | **1.0993** | **0.0000** | **27,609.8793** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 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 | 4.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |
| Energy | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |
| Mobile | 0.0359 | 0.1649 | 0.4057 | 5.3000e-004 | 0.0253 | 2.3100e-003 | 0.0276 | 6.7600e-003 | 2.1200e-003 | 8.8800e-003 | | 50.4039 | 50.4039 | 1.7900e-003 | | 50.4414 |
| Offroad | 1.3351 | 18.0207 | 4.9254 | 0.0198 | | 0.4720 | 0.4720 | | 0.4720 | 0.4720 | | 2,246.2671 | 2,246.2671 | 0.1178 | | 2,248.7418 |
| **Total** | **1.8243** | **22.3064** | **8.7928** | **0.0450** | **0.0253** | **0.7875** | **0.8128** | **6.7600e-003** | **0.7873** | **0.7941** | | **7,241.7055** | **7,241.7055** | **0.2144** | **0.0907** | **7,274.3123** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 4.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |
| Energy | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |
| Mobile | 0.0359 | 0.1649 | 0.4057 | 5.3000e-004 | 0.0253 | 2.3100e-003 | 0.0276 | 6.7600e-003 | 2.1200e-003 | 8.8800e-003 | | 50.4039 | 50.4039 | 1.7900e-003 | | 50.4414 |
| Offroad | 1.3351 | 18.0207 | 4.9254 | 0.0198 | | 0.4720 | 0.4720 | | 0.4720 | 0.4720 | | 2,246.2671 | 2,246.2671 | 0.1178 | | 2,248.7418 |
| **Total** | **1.8243** | **22.3064** | **8.7928** | **0.0450** | **0.0253** | **0.7875** | **0.8128** | **6.7600e-003** | **0.7873** | **0.7941** | | **7,241.7055** | **7,241.7055** | **0.2144** | **0.0907** | **7,274.3123** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **73.18** | **80.79** | **56.02** | **43.89** | **0.00** | **59.94** | **58.08** | **0.00** | **59.95** | **59.44** | **0.00** | **31.02** | **31.02** | **54.96** | **0.00** | **30.91** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Excavation and Clearing | Grading | 1/1/2015 | 2/11/2015 | 5 | 30 | |
| 2 | Pump Station and Yard Piping Const | Building Construction | 2/12/2015 | 4/6/2016 | 5 | 300 | |

**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 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Excavation and Clearing | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Excavation and Clearing | Rubber Tired Dozers | 1 | 2.00 | 255 | 0.40 |
| Excavation and Clearing | Rubber Tired Loaders | 1 | 2.00 | 199 | 0.36 |
| Excavation and Clearing | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Pump Station and Yard Piping Const | Cranes | 1 | 2.00 | 226 | 0.29 |
| Pump Station and Yard Piping Const | Excavators | 1 | 2.00 | 162 | 0.38 |
| Pump Station and Yard Piping Const | Forklifts | 1 | 2.00 | 89 | 0.20 |
| Pump Station and Yard Piping Const | Paving Equipment | 1 | 2.00 | 130 | 0.36 |
| Pump Station and Yard Piping Const | Pumps | 1 | 2.00 | 84 | 0.74 |
| Pump Station and Yard Piping Const | Tractors/Loaders/Backhoes | 1 | 2.00 | 97 | 0.37 |
| Pump Station and Yard Piping Const | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Excavation and Clearing | Graders | 1 | 8.00 | 174 | 0.41 |
| Pump Station and Yard Piping Const | Welders | 3 | 8.00 | 46 | 0.45 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Excavation and Clearing | 6 | 20.00 | 0.00 | 5,000.00 | 10.80 | 20.00 | 20.00 | LD_Mix | HHDT | HHDT |
| Pump Station and Yard Piping Const | 10 | 20.00 | 140.00 | 0.00 | 10.80 | 20.00 | 20.00 | LD_Mix | HHDT | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Excavation and Clearing - 2015

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.7052 | 0.0000 | 1.7052 | 0.8546 | 0.0000 | 0.8546 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.7611 | 26.3031 | 15.6340 | 0.0209 | | 1.6277 | 1.6277 | | 1.5285 | 1.5285 | | 2,135.2010 | 2,135.2010 | 0.5241 | | 2,146.2077 |
| **Total** | **2.7611** | **26.3031** | **15.6340** | **0.0209** | **1.7052** | **1.6277** | **3.3329** | **0.8546** | **1.5285** | **2.3831** | | **2,135.2010** | **2,135.2010** | **0.5241** | | **2,146.2077** |

### 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 | 4.1734 | 56.1935 | 46.4983 | 0.1248 | 2.9040 | 0.8485 | 3.7524 | 0.7952 | 0.7804 | 1.5756 | | 12,682.6337 | 12,682.6337 | 0.1042 | | 12,684.8223 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0815 | 0.1015 | 0.9647 | 1.9600e-003 | 0.1643 | 1.2900e-003 | 0.1656 | 0.0436 | 1.1800e-003 | 0.0448 | | 169.0541 | 169.0541 | 9.4300e-003 | | 169.2522 |
| **Total** | **4.2549** | **56.2950** | **47.4630** | **0.1267** | **3.0683** | **0.8497** | **3.9180** | **0.8387** | **0.7816** | **1.6203** | | **12,851.6878** | **12,851.6878** | **0.1137** | | **12,854.0745** |

## 3.2 Excavation and Clearing - 2015

### 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 | | | | | 1.7052 | 0.0000 | 1.7052 | 0.8546 | 0.0000 | 0.8546 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.7611 | 26.3031 | 15.6340 | 0.0209 | | 1.6277 | 1.6277 | | 1.5285 | 1.5285 | 0.0000 | 2,135.2010 | 2,135.2010 | 0.5241 | | 2,146.2076 |
| **Total** | **2.7611** | **26.3031** | **15.6340** | **0.0209** | **1.7052** | **1.6277** | **3.3329** | **0.8546** | **1.5285** | **2.3831** | **0.0000** | **2,135.2010** | **2,135.2010** | **0.5241** | | **2,146.2076** |

### 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 | 4.1734 | 56.1935 | 46.4983 | 0.1248 | 2.9040 | 0.8485 | 3.7524 | 0.7952 | 0.7804 | 1.5756 | | 12,682.6337 | 12,682.6337 | 0.1042 | | 12,684.8223 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0815 | 0.1015 | 0.9647 | 1.9600e-003 | 0.1643 | 1.2900e-003 | 0.1656 | 0.0436 | 1.1800e-003 | 0.0448 | | 169.0541 | 169.0541 | 9.4300e-003 | | 169.2522 |
| **Total** | **4.2549** | **56.2950** | **47.4630** | **0.1267** | **3.0683** | **0.8497** | **3.9180** | **0.8387** | **0.7816** | **1.6203** | | **12,851.6878** | **12,851.6878** | **0.1137** | | **12,854.0745** |

## 3.3 Pump Station and Yard Piping Const - 2015

### 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 | 3.3031 | 17.9749 | 14.0943 | 0.0208 | | 1.2724 | 1.2724 | | 1.2467 | 1.2467 | | 1,915.3865 | 1,915.3865 | 0.4025 | | 1,923.8384 |
| **Total** | **3.3031** | **17.9749** | **14.0943** | **0.0208** | | **1.2724** | **1.2724** | | **1.2467** | **1.2467** | | **1,915.3865** | **1,915.3865** | **0.4025** | | **1,923.8384** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 3.5057 | 47.2026 | 39.0586 | 0.1048 | 2.4393 | 0.7127 | 3.1520 | 0.6679 | 0.6556 | 1.3235 | | 10,653.4123 | 10,653.4123 | 0.0875 | | 10,655.2508 |
| Worker | 0.0815 | 0.1015 | 0.9647 | 1.9600e-003 | 0.1643 | 1.2900e-003 | 0.1656 | 0.0436 | 1.1800e-003 | 0.0448 | | 169.0541 | 169.0541 | 9.4300e-003 | | 169.2522 |
| **Total** | **3.5872** | **47.3040** | **40.0233** | **0.1068** | **2.6036** | **0.7140** | **3.3176** | **0.7115** | **0.6567** | **1.3682** | | **10,822.4664** | **10,822.4664** | **0.0970** | | **10,824.5030** |

## 3.3 Pump Station and Yard Piping Const - 2015

### 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 | 3.3031 | 17.9749 | 14.0943 | 0.0208 | | 1.2724 | 1.2724 | | 1.2467 | 1.2467 | 0.0000 | 1,915.3865 | 1,915.3865 | 0.4025 | | 1,923.8384 |
| **Total** | **3.3031** | **17.9749** | **14.0943** | **0.0208** | | **1.2724** | **1.2724** | | **1.2467** | **1.2467** | **0.0000** | **1,915.3865** | **1,915.3865** | **0.4025** | | **1,923.8384** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 3.5057 | 47.2026 | 39.0586 | 0.1048 | 2.4393 | 0.7127 | 3.1520 | 0.6679 | 0.6556 | 1.3235 | | 10,653.4123 | 10,653.4123 | 0.0875 | | 10,655.2508 |
| Worker | 0.0815 | 0.1015 | 0.9647 | 1.9600e-003 | 0.1643 | 1.2900e-003 | 0.1656 | 0.0436 | 1.1800e-003 | 0.0448 | | 169.0541 | 169.0541 | 9.4300e-003 | | 169.2522 |
| **Total** | **3.5872** | **47.3040** | **40.0233** | **0.1068** | **2.6036** | **0.7140** | **3.3176** | **0.7115** | **0.6567** | **1.3682** | | **10,822.4664** | **10,822.4664** | **0.0970** | | **10,824.5030** |

## 3.3 Pump Station and Yard Piping Const - 2016

### 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 | 2.9887 | 16.9027 | 13.8356 | 0.0208 | | 1.1529 | 1.1529 | | 1.1290 | 1.1290 | | 1,910.0354 | 1,910.0354 | 0.3767 | | 1,917.9462 |
| **Total** | **2.9887** | **16.9027** | **13.8356** | **0.0208** | | **1.1529** | **1.1529** | | **1.1290** | **1.1290** | | **1,910.0354** | **1,910.0354** | **0.3767** | | **1,917.9462** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 3.0542 | 40.4984 | 36.1805 | 0.1046 | 2.4394 | 0.5375 | 2.9770 | 0.6680 | 0.4945 | 1.1624 | | 10,526.7365 | 10,526.7365 | 0.0761 | | 10,528.3340 |
| Worker | 0.0741 | 0.0921 | 0.8693 | 1.9500e-003 | 0.1643 | 1.2300e-003 | 0.1655 | 0.0436 | 1.1300e-003 | 0.0447 | | 163.1343 | 163.1343 | 8.7000e-003 | | 163.3171 |
| **Total** | **3.1283** | **40.5904** | **37.0497** | **0.1065** | **2.6037** | **0.5388** | **3.1425** | **0.7115** | **0.4956** | **1.2071** | | **10,689.8707** | **10,689.8707** | **0.0848** | | **10,691.6510** |

## 3.3 Pump Station and Yard Piping Const - 2016

**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 | 2.9887 | 16.9027 | 13.8356 | 0.0208 | | 1.1529 | 1.1529 | | 1.1290 | 1.1290 | 0.0000 | 1,910.0354 | 1,910.0354 | 0.3767 | | 1,917.9462 |
| **Total** | **2.9887** | **16.9027** | **13.8356** | **0.0208** | | **1.1529** | **1.1529** | | **1.1290** | **1.1290** | **0.0000** | **1,910.0354** | **1,910.0354** | **0.3767** | | **1,917.9462** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 3.0542 | 40.4984 | 36.1805 | 0.1046 | 2.4394 | 0.5375 | 2.9770 | 0.6680 | 0.4945 | 1.1624 | | 10,526.7365 | 10,526.7365 | 0.0761 | | 10,528.3340 |
| Worker | 0.0741 | 0.0921 | 0.8693 | 1.9500e-003 | 0.1643 | 1.2300e-003 | 0.1655 | 0.0436 | 1.1300e-003 | 0.0447 | | 163.1343 | 163.1343 | 8.7000e-003 | | 163.3171 |
| **Total** | **3.1283** | **40.5904** | **37.0497** | **0.1065** | **2.6037** | **0.5388** | **3.1425** | **0.7115** | **0.4956** | **1.2071** | | **10,689.8707** | **10,689.8707** | **0.0848** | | **10,691.6510** |

## 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 | 0.0359 | 0.1649 | 0.4057 | 5.3000e-004 | 0.0253 | 2.3100e-003 | 0.0276 | 6.7600e-003 | 2.1200e-003 | 8.8800e-003 | | 50.4039 | 50.4039 | 1.7900e-003 | | 50.4414 |
| Unmitigated | 0.0359 | 0.1649 | 0.4057 | 5.3000e-004 | 0.0253 | 2.3100e-003 | 0.0276 | 6.7600e-003 | 2.1200e-003 | 8.8800e-003 | | 50.4039 | 50.4039 | 1.7900e-003 | | 50.4414 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| User Defined Industrial | 4.00 | 1.00 | 1.00 | 9,176 | 9,176 |
| Total | 4.00 | 1.00 | 1.00 | 9,176 | 9,176 |

## 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 | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.000000 | 0.750000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.250000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 4.4 Fleet Mix

# 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 | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |
| NaturalGas Unmitigated | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |

## 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 | 42032.8 | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |
| **Total** | | **0.4533** | **4.1209** | **3.4615** | **0.0247** | | **0.3132** | **0.3132** | | **0.3132** | **0.3132** | | **4,945.0342** | **4,945.0342** | **0.0948** | **0.0907** | **4,975.1289** |

## 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 | 42.0328 | 0.4533 | 4.1209 | 3.4615 | 0.0247 | | 0.3132 | 0.3132 | | 0.3132 | 0.3132 | | 4,945.0342 | 4,945.0342 | 0.0948 | 0.0907 | 4,975.1289 |
| **Total** | | **0.4533** | **4.1209** | **3.4615** | **0.0247** | | **0.3132** | **0.3132** | | **0.3132** | **0.3132** | | **4,945.0342** | **4,945.0342** | **0.0948** | **0.0907** | **4,975.1289** |

# 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 | 4.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |
| Unmitigated | 4.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |

## 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 | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |
| **Total** | **3.0000e-005** | **0.0000** | **1.1000e-004** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **2.2000e-004** | **2.2000e-004** | **0.0000** | | **2.3000e-004** |

**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 | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.0000e-005 | 0.0000 | 1.1000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | | 2.3000e-004 |
| **Total** | **3.0000e-005** | **0.0000** | **1.1000e-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

## 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 |
|---|---|---|---|---|---|---|
| Generator Sets | 1 | 1.00 | 50 | 2012 | 0.74 | Diesel |
| Pumps | 1 | 1.10 | 365 | 329 | 0.84 | Diesel |

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | lb/day | | | | | | | | | | lb/day | | | | | |
| Generator Sets | 1.1521 | 15.8278 | 4.1654 | 0.0164 | | 0.4070 | 0.4070 | | 0.4070 | 0.4070 | | 1,865.3952 | 1,865.3952 | 0.1018 | | 1,867.5320 |
| Pumps | 0.1830 | 2.1929 | 0.7600 | 3.3500e-003 | | 0.0650 | 0.0650 | | 0.0650 | 0.0650 | | 380.8720 | 380.8720 | 0.0161 | | 381.2098 |
| **Total** | **1.3351** | **18.0207** | **4.9254** | **0.0198** | | **0.4720** | **0.4720** | | **0.4720** | **0.4720** | | **2,246.2672** | **2,246.2672** | **0.1178** | | **2,248.7418** |

## 10.0 Vegetation

# OWD 870-2 Pump Station

**San Diego County, 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 | 2.07 | 1.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 40 |
| **Climate Zone** | 13 | | | **Operational Year** | 2015 |
| **Utility Company** | San Diego Gas & Electric | | | | |
| **CO2 Intensity (lb/MWhr)** | 684.8 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor updated to reflect 2015 operational year

Land Use - 2.07 acres clear and grub based on updated data

Construction Phase - 30 days for site excavation and demo, 300 for construction, starts 1/1/2015

Off-road Equipment - Demo - dozer with ripper and wheeled loader

Off-road Equipment - Excavation and clearing - dozer with ripper and wheeled loader.

Off-road Equipment - Pump Station and Yard Piping Const - 1 each excavator, backhoe, forklift, crane, concrete pump, paving machine

Trips and VMT - 5,000 haul truck trips assuming 10 CY trucks and 25,000 CY of material hauling (12,000 import + 13,000 export). 300 tractor trailer trips during construction. Vendors changed to HHDT and 20-mi trip distance for concrete trucks.

Demolition -

Grading - -15,000 CY exported for dust. 13,000 trucked offsite.

Vehicle Trips - 4 trips/weekday, 1 each weekend day, to represent work trips, maint trips, and material deliveries. Fleet changed to 25% HHDT and 75% LDT1.

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Vechicle Emission Factors - 0.75 LDT1, 0.25 HHDT

Consumer Products -

Energy Use - 1,411,804 kWh/yr from engineers. 153,456 therm = 15,341,968.74 kBTU

Operational Off-Road Equipment - 2011.5 HP Emergency Generator, 50 hrs/yr, 1 hr/day worst-case
Diesel use for other equipment based on 329 HP pump, EPA defaults for fuel consumption and diesel weight, and 15 gallons/day.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | Area_Nonresidential_Interior | 2 | 0 |
| tblConstructionPhase | NumDays | 220.00 | 300.00 |
| tblConstructionPhase | NumDays | 6.00 | 30.00 |
| tblEnergyUse | T24E | 0.00 | 1,411,804.00 |
| tblEnergyUse | T24NG | 0.00 | 15,341,968.74 |
| tblGrading | AcresOfGrading | 15.00 | 2.07 |
| tblGrading | MaterialExported | 0.00 | 15,000.00 |
| tblGrading | MaterialImported | 0.00 | 12,000.00 |
| tblLandUse | LandUseSquareFeet | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblLandUse | LotAcreage | 0.00 | 2.07 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 6.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 50.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 2,012.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 329.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 1.10 |
| tblOperationalOffRoadEquipment | OperLoadFactor | 0.74 | 0.84 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 720.49 | 684.8 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblTripsAndVMT | HaulingTripNumber | 3,375.00 | 5,000.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 20.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 140.00 |
| tblTripsAndVMT | VendorVehicleClass | HDT_Mix | HHDT |
| tblTripsAndVMT | VendorVehicleClass | HDT_Mix | HHDT |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 20.00 |
| tblVehicleEF | HHD | 0.02 | 0.25 |
| tblVehicleEF | HHD | 0.02 | 0.25 |

| | | | |
|---|---|---|---|
| tblVehicleEF | HHD | 0.02 | 0.25 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDA | 0.51 | 0.00 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT1 | 0.07 | 0.75 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LDT2 | 0.19 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD1 | 0.04 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | LHD2 | 5.3090e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MCY | 6.5410e-003 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MDV | 0.13 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MH | 3.4710e-003 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |
| tblVehicleEF | MHD | 0.01 | 0.00 |

| | | | |
|---|---|---|---|
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | OBUS | 1.8320e-003 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | SBUS | 6.1400e-004 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleEF | UBUS | 2.0870e-003 | 0.00 |
| tblVehicleTrips | CNW_TTP | 0.00 | 41.00 |
| tblVehicleTrips | CW_TTP | 0.00 | 59.00 |
| tblVehicleTrips | DV_TP | 0.00 | 5.00 |
| tblVehicleTrips | PB_TP | 0.00 | 3.00 |
| tblVehicleTrips | PR_TP | 0.00 | 92.00 |
| tblVehicleTrips | ST_TR | 0.00 | 1.00 |
| tblVehicleTrips | SU_TR | 0.00 | 1.00 |
| tblVehicleTrips | WD_TR | 0.00 | 4.00 |

## 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 | | | | | |
| 2015 | 0.8811 | 8.8025 | 6.8274 | 0.0170 | 0.3651 | 0.2664 | 0.6314 | 0.1058 | 0.2543 | 0.3601 | 0.0000 | 1,540.5574 | 1,540.5574 | 0.0609 | 0.0000 | 1,541.8371 |
| 2016 | 0.2066 | 1.9888 | 1.6627 | 4.4000e-003 | 0.0879 | 0.0583 | 0.1463 | 0.0241 | 0.0560 | 0.0801 | 0.0000 | 394.8502 | 394.8502 | 0.0144 | 0.0000 | 395.1531 |
| **Total** | **1.0877** | **10.7912** | **8.4901** | **0.0214** | **0.4530** | **0.3247** | **0.7777** | **0.1299** | **0.3103** | **0.4402** | **0.0000** | **1,935.4076** | **1,935.4076** | **0.0754** | **0.0000** | **1,936.9902** |

### 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 | | | | | |
| 2015 | 0.8811 | 8.8025 | 6.8274 | 0.0170 | 0.3651 | 0.2664 | 0.6314 | 0.1058 | 0.2543 | 0.3601 | 0.0000 | 1,540.5571 | 1,540.5571 | 0.0609 | 0.0000 | 1,541.8368 |
| 2016 | 0.2066 | 1.9888 | 1.6627 | 4.4000e-003 | 0.0879 | 0.0583 | 0.1463 | 0.0241 | 0.0560 | 0.0801 | 0.0000 | 394.8501 | 394.8501 | 0.0144 | 0.0000 | 395.1530 |
| **Total** | **1.0877** | **10.7912** | **8.4901** | **0.0214** | **0.4530** | **0.3247** | **0.7777** | **0.1299** | **0.3103** | **0.4402** | **0.0000** | **1,935.4072** | **1,935.4072** | **0.0754** | **0.0000** | **1,936.9899** |

| | **ROG** | **NOx** | **CO** | **SO2** | **Fugitive PM10** | **Exhaust PM10** | **PM10 Total** | **Fugitive PM2.5** | **Exhaust PM2.5** | **PM2.5 Total** | **Bio- CO2** | **NBio-CO2** | **Total CO2** | **CH4** | **N20** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 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 | 1.0000e-005 | 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 | 2.0000e-005 |
| Energy | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 1,257.2405 | 1,257.2405 | 0.0343 | 0.0189 | 1,263.8041 |
| Mobile | 4.7300e-003 | 0.0236 | 0.0548 | 8.0000e-005 | 3.5300e-003 | 3.3000e-004 | 3.8600e-003 | 9.5000e-004 | 3.0000e-004 | 1.2500e-003 | 0.0000 | 6.5680 | 6.5680 | 2.3000e-004 | 0.0000 | 6.5729 |
| Offroad | 0.0622 | 0.7959 | 0.2428 | 1.0200e-003 | | 0.0220 | 0.0220 | | 0.0220 | 0.0220 | 0.0000 | 105.3641 | 105.3641 | 4.9700e-003 | 0.0000 | 105.4685 |
| 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** | **0.1497** | **1.5716** | **0.9294** | **5.6100e-003** | **3.5300e-003** | **0.0795** | **0.0831** | **9.5000e-004** | **0.0795** | **0.0805** | **0.0000** | **1,369.1726** | **1,369.1726** | **0.0395** | **0.0189** | **1,375.8455** |

## 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 | 1.0000e-005 | 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 | 2.0000e-005 |
| Energy | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 1,257.2405 | 1,257.2405 | 0.0343 | 0.0189 | 1,263.8041 |
| Mobile | 4.7300e-003 | 0.0236 | 0.0548 | 8.0000e-005 | 3.5300e-003 | 3.3000e-004 | 3.8600e-003 | 9.5000e-004 | 3.0000e-004 | 1.2500e-003 | 0.0000 | 6.5680 | 6.5680 | 2.3000e-004 | 0.0000 | 6.5729 |
| Offroad | 0.0622 | 0.7959 | 0.2428 | 1.0200e-003 | | 0.0220 | 0.0220 | | 0.0220 | 0.0220 | 0.0000 | 105.3641 | 105.3641 | 4.9700e-003 | 0.0000 | 105.4685 |
| 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** | **0.1497** | **1.5716** | **0.9294** | **5.6100e-003** | **3.5300e-003** | **0.0795** | **0.0831** | **9.5000e-004** | **0.0795** | **0.0805** | **0.0000** | **1,369.1726** | **1,369.1726** | **0.0395** | **0.0189** | **1,375.8455** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **41.55** | **50.64** | **26.13** | **18.18** | **0.00** | **27.71** | **26.54** | **0.00** | **27.72** | **27.40** | **0.00** | **7.70** | **7.70** | **12.60** | **0.00** | **7.67** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Excavation and Clearing | Grading | 1/1/2015 | 2/11/2015 | 5 | 30 | |
| 2 | Pump Station and Yard Piping Const | Building Construction | 2/12/2015 | 4/6/2016 | 5 | 300 | |

**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 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Excavation and Clearing | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Excavation and Clearing | Rubber Tired Dozers | 1 | 2.00 | 255 | 0.40 |
| Excavation and Clearing | Rubber Tired Loaders | 1 | 2.00 | 199 | 0.36 |
| Excavation and Clearing | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Pump Station and Yard Piping Const | Cranes | 1 | 2.00 | 226 | 0.29 |
| Pump Station and Yard Piping Const | Excavators | 1 | 2.00 | 162 | 0.38 |
| Pump Station and Yard Piping Const | Forklifts | 1 | 2.00 | 89 | 0.20 |
| Pump Station and Yard Piping Const | Paving Equipment | 1 | 2.00 | 130 | 0.36 |
| Pump Station and Yard Piping Const | Pumps | 1 | 2.00 | 84 | 0.74 |
| Pump Station and Yard Piping Const | Tractors/Loaders/Backhoes | 1 | 2.00 | 97 | 0.37 |
| Pump Station and Yard Piping Const | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Excavation and Clearing | Graders | 1 | 8.00 | 174 | 0.41 |
| Pump Station and Yard Piping Const | Welders | 3 | 8.00 | 46 | 0.45 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Excavation and Clearing | 6 | 20.00 | 0.00 | 5,000.00 | 10.80 | 20.00 | 20.00 | LD_Mix | HHDT | HHDT |
| Pump Station and Yard Piping Const | 10 | 20.00 | 140.00 | 0.00 | 10.80 | 20.00 | 20.00 | LD_Mix | HHDT | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Excavation and Clearing - 2015

**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 | | | | | 0.0256 | 0.0000 | 0.0256 | 0.0128 | 0.0000 | 0.0128 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0414 | 0.3946 | 0.2345 | 3.1000e-004 | | 0.0244 | 0.0244 | | 0.0229 | 0.0229 | 0.0000 | 29.0553 | 29.0553 | 7.1300e-003 | 0.0000 | 29.2051 |
| **Total** | **0.0414** | **0.3946** | **0.2345** | **3.1000e-004** | **0.0256** | **0.0244** | **0.0500** | **0.0128** | **0.0229** | **0.0358** | **0.0000** | **29.0553** | **29.0553** | **7.1300e-003** | **0.0000** | **29.2051** |

## 3.2 Excavation and Clearing - 2015

### 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 | 0.0600 | 0.8461 | 0.6481 | 1.8700e-003 | 0.0427 | 0.0127 | 0.0554 | 0.0117 | 0.0117 | 0.0234 | 0.0000 | 172.8168 | 172.8168 | 1.4100e-003 | 0.0000 | 172.8464 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1300e-003 | 1.5000e-003 | 0.0144 | 3.0000e-005 | 2.4100e-003 | 2.0000e-005 | 2.4300e-003 | 6.4000e-004 | 2.0000e-005 | 6.6000e-004 | 0.0000 | 2.3233 | 2.3233 | 1.3000e-004 | 0.0000 | 2.3260 |
| **Total** | **0.0612** | **0.8476** | **0.6625** | **1.9000e-003** | **0.0451** | **0.0127** | **0.0578** | **0.0123** | **0.0117** | **0.0240** | **0.0000** | **175.1401** | **175.1401** | **1.5400e-003** | **0.0000** | **175.1723** |

### 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 | | | | | 0.0256 | 0.0000 | 0.0256 | 0.0128 | 0.0000 | 0.0128 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0414 | 0.3946 | 0.2345 | 3.1000e-004 | | 0.0244 | 0.0244 | | 0.0229 | 0.0229 | 0.0000 | 29.0553 | 29.0553 | 7.1300e-003 | 0.0000 | 29.2051 |
| **Total** | **0.0414** | **0.3946** | **0.2345** | **3.1000e-004** | **0.0256** | **0.0244** | **0.0500** | **0.0128** | **0.0229** | **0.0358** | **0.0000** | **29.0553** | **29.0553** | **7.1300e-003** | **0.0000** | **29.2051** |

## 3.2 Excavation and Clearing - 2015

**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 | 0.0600 | 0.8461 | 0.6481 | 1.8700e-003 | 0.0427 | 0.0127 | 0.0554 | 0.0117 | 0.0117 | 0.0234 | 0.0000 | 172.8168 | 172.8168 | 1.4100e-003 | 0.0000 | 172.8464 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1300e-003 | 1.5000e-003 | 0.0144 | 3.0000e-005 | 2.4100e-003 | 2.0000e-005 | 2.4300e-003 | 6.4000e-004 | 2.0000e-005 | 6.6000e-004 | 0.0000 | 2.3233 | 2.3233 | 1.3000e-004 | 0.0000 | 2.3260 |
| **Total** | **0.0612** | **0.8476** | **0.6625** | **1.9000e-003** | **0.0451** | **0.0127** | **0.0578** | **0.0123** | **0.0117** | **0.0240** | **0.0000** | **175.1401** | **175.1401** | **1.5400e-003** | **0.0000** | **175.1723** |

## 3.3 Pump Station and Yard Piping Const - 2015

**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 | 0.3815 | 2.0761 | 1.6279 | 2.4000e-003 | | 0.1470 | 0.1470 | | 0.1440 | 0.1440 | 0.0000 | 200.6939 | 200.6939 | 0.0422 | 0.0000 | 201.5795 |
| **Total** | **0.3815** | **2.0761** | **1.6279** | **2.4000e-003** | | **0.1470** | **0.1470** | | **0.1440** | **0.1440** | **0.0000** | **200.6939** | **200.6939** | **0.0422** | **0.0000** | **201.5795** |

## 3.3 Pump Station and Yard Piping Const - 2015

### 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 | 0.3883 | 5.4727 | 4.1920 | 0.0121 | 0.2759 | 0.0821 | 0.3580 | 0.0757 | 0.0755 | 0.1513 | 0.0000 | 1,117.7790 | 1,117.7790 | 9.1100e-003 | 0.0000 | 1,117.9703 |
| Worker | 8.7100e-003 | 0.0115 | 0.1106 | 2.3000e-004 | 0.0185 | 1.5000e-004 | 0.0187 | 4.9200e-003 | 1.4000e-004 | 5.0600e-003 | 0.0000 | 17.8892 | 17.8892 | 9.9000e-004 | 0.0000 | 17.9099 |
| **Total** | **0.3970** | **5.4842** | **4.3026** | **0.0123** | **0.2944** | **0.0823** | **0.3767** | **0.0806** | **0.0757** | **0.1563** | **0.0000** | **1,135.6681** | **1,135.6681** | **0.0101** | **0.0000** | **1,135.8802** |

### 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 | 0.3815 | 2.0761 | 1.6279 | 2.4000e-003 | | 0.1470 | 0.1470 | | 0.1440 | 0.1440 | 0.0000 | 200.6937 | 200.6937 | 0.0422 | 0.0000 | 201.5792 |
| **Total** | **0.3815** | **2.0761** | **1.6279** | **2.4000e-003** | | **0.1470** | **0.1470** | | **0.1440** | **0.1440** | **0.0000** | **200.6937** | **200.6937** | **0.0422** | **0.0000** | **201.5792** |

## 3.3 Pump Station and Yard Piping Const - 2015

**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 | 0.3883 | 5.4727 | 4.1920 | 0.0121 | 0.2759 | 0.0821 | 0.3580 | 0.0757 | 0.0755 | 0.1513 | 0.0000 | 1,117.7790 | 1,117.7790 | 9.1100e-003 | 0.0000 | 1,117.9703 |
| Worker | 8.7100e-003 | 0.0115 | 0.1106 | 2.3000e-004 | 0.0185 | 1.5000e-004 | 0.0187 | 4.9200e-003 | 1.4000e-004 | 5.0600e-003 | 0.0000 | 17.8892 | 17.8892 | 9.9000e-004 | 0.0000 | 17.9099 |
| **Total** | **0.3970** | **5.4842** | **4.3026** | **0.0123** | **0.2944** | **0.0823** | **0.3767** | **0.0806** | **0.0757** | **0.1563** | **0.0000** | **1,135.6681** | **1,135.6681** | **0.0101** | **0.0000** | **1,135.8802** |

## 3.3 Pump Station and Yard Piping Const - 2016

**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 | 0.1031 | 0.5831 | 0.4773 | 7.2000e-004 | | 0.0398 | 0.0398 | | 0.0390 | 0.0390 | 0.0000 | 59.7801 | 59.7801 | 0.0118 | 0.0000 | 60.0276 |
| **Total** | **0.1031** | **0.5831** | **0.4773** | **7.2000e-004** | | **0.0398** | **0.0398** | | **0.0390** | **0.0390** | **0.0000** | **59.7801** | **59.7801** | **0.0118** | **0.0000** | **60.0276** |

## 3.3 Pump Station and Yard Piping Const - 2016

### 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 | 0.1011 | 1.4025 | 1.1556 | 3.6100e-003 | 0.0824 | 0.0185 | 0.1009 | 0.0226 | 0.0170 | 0.0397 | 0.0000 | 329.9137 | 329.9137 | 2.3600e-003 | 0.0000 | 329.9633 |
| Worker | 2.3700e-003 | 3.1300e-003 | 0.0298 | 7.0000e-005 | 5.5300e-003 | 4.0000e-005 | 5.5800e-003 | 1.4700e-003 | 4.0000e-005 | 1.5100e-003 | 0.0000 | 5.1564 | 5.1564 | 2.7000e-004 | 0.0000 | 5.1622 |
| **Total** | **0.1035** | **1.4056** | **1.1854** | **3.6800e-003** | **0.0879** | **0.0186** | **0.1065** | **0.0241** | **0.0171** | **0.0412** | **0.0000** | **335.0701** | **335.0701** | **2.6300e-003** | **0.0000** | **335.1255** |

### 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 | 0.1031 | 0.5831 | 0.4773 | 7.2000e-004 | | 0.0398 | 0.0398 | | 0.0390 | 0.0390 | 0.0000 | 59.7800 | 59.7800 | 0.0118 | 0.0000 | 60.0276 |
| **Total** | **0.1031** | **0.5831** | **0.4773** | **7.2000e-004** | | **0.0398** | **0.0398** | | **0.0390** | **0.0390** | **0.0000** | **59.7800** | **59.7800** | **0.0118** | **0.0000** | **60.0276** |

### 3.3 Pump Station and Yard Piping Const - 2016

**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 | 0.1011 | 1.4025 | 1.1556 | 3.6100e-003 | 0.0824 | 0.0185 | 0.1009 | 0.0226 | 0.0170 | 0.0397 | 0.0000 | 329.9137 | 329.9137 | 2.3600e-003 | 0.0000 | 329.9633 |
| Worker | 2.3700e-003 | 3.1300e-003 | 0.0298 | 7.0000e-005 | 5.5300e-003 | 4.0000e-005 | 5.5800e-003 | 1.4700e-003 | 4.0000e-005 | 1.5100e-003 | 0.0000 | 5.1564 | 5.1564 | 2.7000e-004 | 0.0000 | 5.1622 |
| **Total** | **0.1035** | **1.4056** | **1.1854** | **3.6800e-003** | **0.0879** | **0.0186** | **0.1065** | **0.0241** | **0.0171** | **0.0412** | **0.0000** | **335.0701** | **335.0701** | **2.6300e-003** | **0.0000** | **335.1255** |

## 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 | 4.7300e-003 | 0.0236 | 0.0548 | 8.0000e-005 | 3.5300e-003 | 3.3000e-004 | 3.8600e-003 | 9.5000e-004 | 3.0000e-004 | 1.2500e-003 | 0.0000 | 6.5680 | 6.5680 | 2.3000e-004 | 0.0000 | 6.5729 |
| Unmitigated | 4.7300e-003 | 0.0236 | 0.0548 | 8.0000e-005 | 3.5300e-003 | 3.3000e-004 | 3.8600e-003 | 9.5000e-004 | 3.0000e-004 | 1.2500e-003 | 0.0000 | 6.5680 | 6.5680 | 2.3000e-004 | 0.0000 | 6.5729 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| User Defined Industrial | 4.00 | 1.00 | 1.00 | 9,176 | 9,176 |
| Total | 4.00 | 1.00 | 1.00 | 9,176 | 9,176 |

## 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 | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.000000 | 0.750000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.250000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

## 4.4 Fleet Mix

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 438.5346 | 438.5346 | 0.0186 | 3.8400e-003 | 440.1157 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 438.5346 | 438.5346 | 0.0186 | 3.8400e-003 | 440.1157 |
| NaturalGas Mitigated | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 818.7059 | 818.7059 | 0.0157 | 0.0150 | 823.6884 |
| NaturalGas Unmitigated | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 818.7059 | 818.7059 | 0.0157 | 0.0150 | 823.6884 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 1.5342e+007 | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 818.7059 | 818.7059 | 0.0157 | 0.0150 | 823.6884 |
| **Total** | | **0.0827** | **0.7521** | **0.6317** | **4.5100e-003** | | **0.0572** | **0.0572** | | **0.0572** | **0.0572** | **0.0000** | **818.7059** | **818.7059** | **0.0157** | **0.0150** | **823.6884** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 1.5342e+007 | 0.0827 | 0.7521 | 0.6317 | 4.5100e-003 | | 0.0572 | 0.0572 | | 0.0572 | 0.0572 | 0.0000 | 818.7059 | 818.7059 | 0.0157 | 0.0150 | 823.6884 |
| **Total** | | **0.0827** | **0.7521** | **0.6317** | **4.5100e-003** | | **0.0572** | **0.0572** | | **0.0572** | **0.0572** | **0.0000** | **818.7059** | **818.7059** | **0.0157** | **0.0150** | **823.6884** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 1.4118e+006 | 438.5346 | 0.0186 | 3.8400e-003 | 440.1157 |
| **Total** | | **438.5346** | **0.0186** | **3.8400e-003** | **440.1157** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 1.4118e+006 | 438.5346 | 0.0186 | 3.8400e-003 | 440.1157 |
| **Total** | | **438.5346** | **0.0186** | **3.8400e-003** | **440.1157** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.0000e-005 | 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 | 2.0000e-005 |
| Unmitigated | 1.0000e-005 | 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 | 2.0000e-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 | 2.0000e-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** | **2.0000e-005** |

**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 | 2.0000e-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** | **2.0000e-005** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | 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** |

### 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 |

## 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 |
|---|---|---|---|---|---|---|
| Generator Sets | 1 | 1.00 | 50 | 2012 | 0.74 | Diesel |
| Pumps | 1 | 1.10 | 365 | 329 | 0.84 | Diesel |

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.0288 | 0.3957 | 0.1041 | 4.1000e-004 | | 0.0102 | 0.0102 | | 0.0102 | 0.0102 | 0.0000 | 42.3065 | 42.3065 | 2.3100e-003 | 0.0000 | 42.3549 |
| Pumps | 0.0334 | 0.4002 | 0.1387 | 6.1000e-004 | | 0.0119 | 0.0119 | | 0.0119 | 0.0119 | 0.0000 | 63.0576 | 63.0576 | 2.6600e-003 | 0.0000 | 63.1136 |
| **Total** | **0.0622** | **0.7959** | **0.2428** | **1.0200e-003** | | **0.0220** | **0.0220** | | **0.0220** | **0.0220** | **0.0000** | **105.3641** | **105.3641** | **4.9700e-003** | **0.0000** | **105.4685** |

## 10.0 Vegetation

Appendix B

# Biological Resources Technical Report for Otay Mesa Conveyance and Disinfection System Project, AECOM, October 2013

Due to the large size of this appendix, the file has not been attached to the IS/MND. However, the report can be provided upon request within 2 business days. Contact information is provided on page 3-1 of the IS/MND

# BIOLOGICAL TECHNICAL REPORT
# FOR THE
# OTAY MESA CONVEYANCE AND DISINFECTION SYSTEM PROJECT

***Prepared for:***

Otay Water District
2554 Sweetwater Springs Boulevard
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***Prepared by:***

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October 2015

# TABLE OF CONTENTS

**Section** **Page**

EXECUTIVE SUMMARY ..... 1

CHAPTER 1.0 – INTRODUCTION ..... 1
1.1 Project Location ..... 2
1.2 Project Description ..... 2
1.2.1 Conveyance Pipeline Alignment Alternatives ..... 4
1.2.2 Additional Project Infrastructure ..... 9
1.2.3 Construction Methods ..... 10
1.2.4 Operations and Maintenance ..... 12
1.3 Regulatory Framework ..... 12

CHAPTER 2.0 – METHODS ..... 13
2.1 Vegetation Mapping ..... 18
2.2 Jurisdictional Waters and Wetlands Delineation Surveys ..... 18
2.2.1 Delineation of Federal Waters ..... 19
2.2.2 Delineation of State Waters ..... 20
2.3 Rare Plant Surveys ..... 20
2.4 General Wildlife Surveys ..... 21
2.5 San Diego and Riverside Fairy Shrimp ..... 21
2.6 Quino Checkerspot Butterfly Surveys ..... 22
2.7 Coastal California Gnatcatcher Surveys ..... 24
2.8 Least Bell's Vireo Surveys ..... 25
2.9 Western Burrowing Owl Surveys ..... 25

CHAPTER 3.0 – EXISTING CONDITIONS ..... 27
3.1 Physical Setting ..... 27
3.2 Vegetation Communities ..... 27
3.2.1 Riparian and Wetland ..... 28
3.2.2 Upland Vegetation Communities ..... 34
3.2.3 Other Cover Types ..... 36
3.3 Jurisdictional Waters and Wetlands ..... 37
3.4 Special-status Plant Species ..... 41
3.4.1 Federally Listed Plant Species ..... 41

3.4.2 Nonlisted Special-status Plant Species .....69
3.5 Special-Status Wildlife ..... 77
3.5.1 Federally Listed Species .....83
3.5.2 State-Listed Species .....95
3.5.3 Nonlisted Special-status Species.....96
3.5.4 Migratory Birds.....110
3.6 Critical Habitat..... 110
3.7 Wildlife Corridors..... 111

CHAPTER 4.0 – IMPACT ANALYSIS ..... 113
4.1 Construction Impacts ..... 116
4.1.1 Area Common to All Alternatives .....116
4.1.2 Alternative 1 – Unique Area .....141
4.1.3 Alternative 2 – Unique Area .....148
4.1.4 Alternative 3 – Unique Area .....155
4.2 Operation and Maintenance Impacts ..... 162
4.2.1 Vegetation Communities (Issue 1).....162
4.2.2 Jurisdictional Waters and Wetlands (Issue 2).....163
4.2.3 Special-Status Species (Issue 3).....163
4.2.4 Wildlife Corridors (Issue 4) .....164
4.2.5 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, State, or Federal Regulations, Policies, Ordinances, or Plans (Issues 5 and 6) 165

CHAPTER 5.0 – AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES..... 167
5.1 Design Measures..... 167
5.2 Construction Measures..... 168
5.2.1 General .....168
5.2.2 Vegetation Communities .....171
5.2.3 Jurisdictional Waters and Wetlands.....172
5.2.4 Special-status Species .....173

CHAPTER 6.0 – REFERENCES ..... 179

APPENDICES

A Survey Dates and Personnel for all Biological Surveys Conducted
B Botanical Species Observed
C Wildlife Species Observed
D Jurisdictional Delineation Report

## LIST OF FIGURES

**Figure** **Page**

1-1 Regional Map ..... 3
1-2 Proposed Project Alternatives ..... 5
1-3 Proposed Project Impact Areas ..... 7
2-1 Proposed Project Study Areas ..... 15
3-1 Vegetation Communities ..... 29
3-2 Potential Jurisdictional Waters of the U.S. and State ..... 39
3-3 Special-Status Plant Species Results ..... 75
3-4 Fairy Shrimp Results ..... 85
3-5 Quino Checkerspot Butterfly Results ..... 89
3-6 Coastal California Gnatcatcher Results ..... 93
3-7 Least Bell's Vireo Results ..... 97
3-8 Western Burrowing Owl Results ..... 101
3-9 Other Special-Status Wildlife Species Results ..... 103

## LIST OF TABLES

**Table** **Page**


1-1 Applicable Federal, State, and Local Regulations ..... 12
3-1 Vegetation Communities and Other Cover Types within the 500-foot Study Area ..... 28
3-2 Potential Jurisdictional Waters of the U.S. and State Occurring within the Delineation Survey Area ..... 38
3-3 Special-status Plant Species Known or with Potential to Occur in the 250-foot Study Area ..... 42
3-4 Special-status Wildlife Species Known or Potential to Occur in the 500-foot Study Area ..... 77
3-5 Quino Checkerspot Butterfly Observations ..... 91
4-1 Area Common to All Alternatives – Permanent Direct Impacts to Vegetation Communities and Other Cover Types ..... 117
4-2 Permanent Direct Impacts to Vegetation Communities and Other Cover Types by Alternative ..... 118
4-3 Area Common to All Alternatives – Temporary Direct Impacts to Vegetation Communities and Other Cover Types ..... 119
4-4 Temporary Direct Impacts to Vegetation Communities and Other Cover Types by Alternative ..... 120
4-5 Areas Common to All Alternatives – Temporary Direct Impacts to Jurisdictional Waters of the U.S. and State ..... 123
4-6 Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Critical Habitat (Acres) ..... 125
4-7 Permanent and Temporary Direct Impacts to Critical Habitat by Alternative (Acres) ..... 126
4-8 Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Nonlisted Special-status Plant Species ..... 128
4-9 Permanent and Temporary Direct Impacts to Nonlisted Special-status Plant Species by Alternative ..... 129
4-10 Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Federally Listed and State-Listed Wildlife Species Suitable Habitat ..... 132
4-11 Permanent and Temporary Direct Impacts to Federally Listed and State-Listed Wildlife Species Suitable Habitat by Alternative ..... 133
4-12 Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Western Burrowing Owl ..... 137
4-13 Permanent and Temporary Direct Impacts to Western Burrowing Owl by Alternative ..... 138

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| amsl | above mean sea level |
| Basin Plan | Water Quality Control Plan for the San Diego Basin |
| BGEPA | Bald and Golden Eagle Protection Act |
| BMP | best management practice |
| BTR | Biological Technical Report |
| CAGN | coastal California gnatcatcher |
| CalEPA | California Environmental Protection Agency |
| Caltrans | California Department of Transportation |
| CCR | California Code of Regulations |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act of 1970 |
| CERES | California Environmental Resources Evaluation System |
| CFGC | California Fish and Game Code |
| CFR | Code of Federal Regulations |
| CNDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| CRPR | California Rare Plant Rank |
| CSUS | California State University Sacramento |
| CWA | Clean Water Act |
| CWC | California Water Code |
| CWN | California Watershed Network |
| dBA | A-weighted decibels |
| District | Otay Water District |
| DOS | U.S. Department of State |
| EIR | environmental impact report |
| EIS | environmental impact statement |
| ERCE | Environmental and Energy Services Co. |
| ESA | Endangered Species Act |
| GIS | geographic information system |
| GPS | Global Positioning System |
| HCP | Habitat Conservation Plan |
| Helix | Helix Environmental Planning |
| HPS | high-pressure sodium |
| IBWC | International Boundary and Water Commission |
| JWA | Joint Water Agencies |

| | |
|---|---|
| LBV | least Bell's vireo |
| LF | linear feet |
| MBTA | Migratory Bird Treaty Act |
| MGD | million gallons per day |
| MSCP | Multiple Species Conservation Program |
| NCCP | Natural Community Conservation Plan |
| NEPA | National Environmental Policy Act |
| NOAA | National Oceanic and Atmospheric Administration |
| NPPA | Native Plant Protection Act |
| NRCS | Natural Resources Conservation Service |
| O&M | Operation and maintenance |
| Porter-Cologne | 1969 Porter-Cologne Water Quality Control Act |
| Proposed Project | Otay Mesa Conveyance and Disinfection System Project |
| QCB | Quino checkerspot butterfly |
| quad | quadrangle |
| RFS | Riverside fairy shrimp |
| Roll | 571-1 |
| RWQCB Region 9 | Water Quality Control Plan for the San Diego Basin |
| RWQCB | Regional Water Quality Control Board |
| SANDAG | San Diego Association of Governments |
| SDCFCD | San Diego County Flood Control District |
| SDFS | San Diego fairy shrimp |
| SDG&E | San Diego Gas & Electric |
| SDNHM | San Diego Natural History Museum |
| SWRCB | State Water Resources Control Board |
| U.C. Davis | University of California at Davis |
| U.S. | United States |
| USACE | U.S. Army Corps of Engineers |
| USC | U.S. Code |
| USDA | U.S. Department of Agriculture |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geologic Survey |
| WBO | western burrowing owl |
| WRCC | Western Regional Climate Center |

# EXECUTIVE SUMMARY

Otay Water District (District) is proposing the construction and operation of the Otay Mesa Conveyance and Disinfection System Project (Proposed Project). The Proposed Project is an approximately 4-mile-long potable water pipeline and metering station for the transmission of desalinated seawater from the United States (U.S.)/Mexico international border to the District's 571-1 (Roll) Reservoir on Otay Mesa. Other infrastructure improvements, including a potential pump station and a disinfection facility, would be constructed if necessary. The Proposed Project would enable the District to import and convey desalinated seawater produced in Rosarito Beach, Baja California, Mexico, from a connection point at the U.S./Mexico border north to the District's existing Roll Reservoir (a covered drinking water storage facility).

This Biological Technical Report provides the regulatory framework applicable to the natural resources that occur within or adjacent to the Proposed Project; describes existing biological resources located within the vicinity of the Proposed Project; details the methodologies used to assess potential impacts to sensitive habitats and species; provides results of the assessment; and presents avoidance, minimization, and mitigation measures to reduce potential impacts.

Biological surveys were completed to evaluate biological resources found or with the potential to occur within the vicinity of the Proposed Project. Surveys and assessments to inventory and evaluate biological resources were conducted within the three alignment alternatives and a buffer around each alignment, referred to as the Study Area. For those resources more mobile or sensitive to indirect impacts such as avian species, a 500-foot radius buffer was applied to the disturbance footprints as a defined 500-foot Study Area. For those resources less mobile (such as invertebrate species), a 250-foot-radius buffer was applied to the disturbance footprints as a defined 250-foot Study Area. Biological surveys and investigations conducted for the Proposed Project include vegetation mapping surveys, focused rare plant surveys, a jurisdictional wetlands delineation, San Diego fairy shrimp (*Brachinecta sandiegonensis*) and Riverside fairy shrimp (*Streptocephalus woottoni;* RFS) protocol surveys, Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) protocol surveys, western burrowing owl (*Athene cunicularia hypugaea*; WBO) protocol surveys, coastal California gnatcatcher (*Polioptila californica californica*; CAGN) protocol surveys, and least Bell's vireo (*Vireo bellii pusillus*; LBV) protocol surveys.

The majority of vegetation within the 500-foot Study Area consists of three open-canopy plant communities. In order of prevalence these are grasslands, coastal sage scrub, and disturbed land. Several small streams and swales within the 500-foot Study Area support a number of wetland

communities. Wetlands and/or waters regulated under the Clean Water Act, Porter-Cologne Water Quality Act, and California Fish and Game Code (CFGC) Section 1600 et seq. consist of southern willow scrub, concrete-lined channels, culverts, and nonvegetated channels. California Department of Fish and Wildlife (CDFW) exclusive jurisdictional resources consist of tamarisk scrub.

For the purposes of this report, special-status species were defined to include those listed or proposed (including candidate species) for listing as threatened or endangered per the federal Endangered Species Act, California Endangered Species Act (California ESA), CDFW sensitive species, and/or plant species listed as rare by the California Native Plant Society as defined in the Native Plant Protection Act, CFGC Section 1901, or the California ESA, CFGC Sections 2050 through 2098. One federally listed and state-listed plant species, Otay tarplant (*Deinandra conjugens*), was detected during project surveys. In addition, 12 other nonlisted special-status plant species were detected during project surveys. Three federally listed wildlife species, RFS, QCB, and CAGN, were detected during surveys. One federally listed and state-listed wildlife species, LBV, was detected during surveys. WBO, a California species of special concern, was observed during WBO protocol surveys. In addition, 12 other nonlisted special-status wildlife species were detected during project surveys. A total of 79 species of migratory birds protected under the Migratory Bird Treaty Act and corresponding state laws were documented incidentally during survey efforts conducted for the Proposed Project.

Permanent and temporary direct impacts to biological resources would occur from construction within the Project footprint, including permanent direct loss to special-status species and their habitats (including jurisdictional waters). Specifically, direct impacts may include injury, death, and/or harassment of special-status species. Direct impacts may include destruction of habitats necessary for species breeding, feeding, or sheltering. The majority of direct impacts to habitat would be temporary. Indirect impacts resulting from construction of the Project may include noise, exotic species introduction, lighting, and fugitive dust, among others. Construction impacts to sensitive biological resources may be considered significant. Operation and maintenance impacts are expected to be insignificant. Avoidance, minimization, and mitigation measures are provided to address potentially significant impacts to biological resources. General biology and resource-specific measures are provided for the Proposed Project design and construction.

# CHAPTER 1.0
# INTRODUCTION

Otay Water District (District) is proposing the construction and operation of the Otay Mesa Conveyance and Disinfection System Project (Proposed Project). The Proposed Project is an approximately 4-mile-long potable water pipeline for the transmission of desalinated seawater from the United States (U.S.)/Mexico international border to the District's 571-1 (Roll) Reservoir on Otay Mesa. Other infrastructure improvements, including a metering station, potential pump station, and disinfection facility, would be constructed if necessary. The Proposed Project would enable the District to import and convey desalinated seawater produced in Rosarito Beach, Baja California, Mexico, from a connection point at the U.S./Mexico border north to the District's existing Roll Reservoir (a covered drinking water storage facility).

Water would be supplied from a new desalination plant proposed for location in Rosarito Beach, Baja California, Mexico. The planned Rosarito Desalination Plant will be owned and operated by NSC Agua, a joint venture of the Mexican company Norte Sur Agua and Cayman Island company Consolidated Water Company. A 25-mile pipeline will be constructed in Mexico to move water from the desalination facility in Rosarito Beach to serve potential customers in Mexico and the U.S. The District's involvement begins with the potable water pipeline in the U.S. at the U.S./Mexico border. The District is not involved in the design or construction of the pipeline south of the border or the construction of the desalination plant.

The District is in negotiations with NSC Agua to purchase approximately 20 to 25 million gallons per day (MGD) initially and ultimately to purchase up to 50 MGD of desalinated seawater produced at the planned Rosarito Desalination Plant that NSC Agua is planning on constructing. Negotiations on the agreement between NSC Agua and the District are ongoing. Water sourced from the desalination plant in Mexico would expand the District's long-term potable water supply portfolio and reduce dependence on imported water from Northern California and the Colorado River. This water would take the place of up to 70% of the water the District currently imports from Northern California and the Colorado River.

The water purchase agreement will include a water quality specification that lists the maximum allowable levels of constituents in the water. The final specification will be approved by the California Department of Public Health. NSC Agua will design processes at the desalination plant to meet or exceed the specification. These processes include pre-treatment, reverse osmosis membrane treatment, post treatment conditioning, and disinfection.

This Biological Technical Report (BTR) provides the regulatory framework applicable to the natural resources that occur within or adjacent to the Proposed Project; describes existing biological resources located within the vicinity of the Proposed Project; details the methodologies used to assess potential impacts to sensitive habitats and species; provides results of the assessment; and presents avoidance, minimization, and mitigation measures to reduce potential impacts.

## 1.1 PROJECT LOCATION

The Proposed Project is located within the community of Otay Mesa in southern San Diego County, approximately 17 miles southeast of downtown San Diego, and 8 miles northeast of Tijuana, Baja California, Mexico (Figure 1-1). The Proposed Project lies within the Otay Mesa U.S. Geological Survey 7.5-minute quadrangle (quad). The southern end of the proposed pipeline is located along the U.S./Mexico border, approximately 2 miles east of the Otay Mesa Port of Entry, and generally continues north to Paseo de la Fuente. It continues along this road until it reaches Alta Road. From the intersection of Alta Road and Paseo de la Fuente, the proposed pipeline turns north following the road to the terminus at Roll Reservoir.

## 1.2 PROJECT DESCRIPTION

The Proposed Project would entail construction and operation of an approximately 4-mile-long (depending on the selected alignment alternative) underground potable water pipeline with an anticipated diameter of 48 or 54 inches and metering station. Other infrastructure improvements, including a potential pump station and a disinfection facility, would be constructed if necessary.

Three conveyance pipeline alignment alternatives have been identified, which are described below from south to north, beginning at the U.S./Mexico border and ending at Roll Reservoir. All three alignment alternatives would begin at the U.S./Mexico border, approximately 300 linear feet (LF) east of existing San Diego Gas & Electric (SDG&E) power transmission lines and easement (Figure 1-2). This is the location of the pipeline terminus in Mexico. All three alignment alternatives would share a common segment, comprising roughly the northern half of the entire pipeline route, starting at approximately 550 feet east of where the alignments would cross an existing SDG&E 24-inch gas pipeline, continuing northwesterly to Roll Reservoir.

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Source: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

12.5 0 12.5 Miles

Scale: 1 = 792,000; 1 inch = 12.5 miles

**Figure 1-1**
**Regional Map**

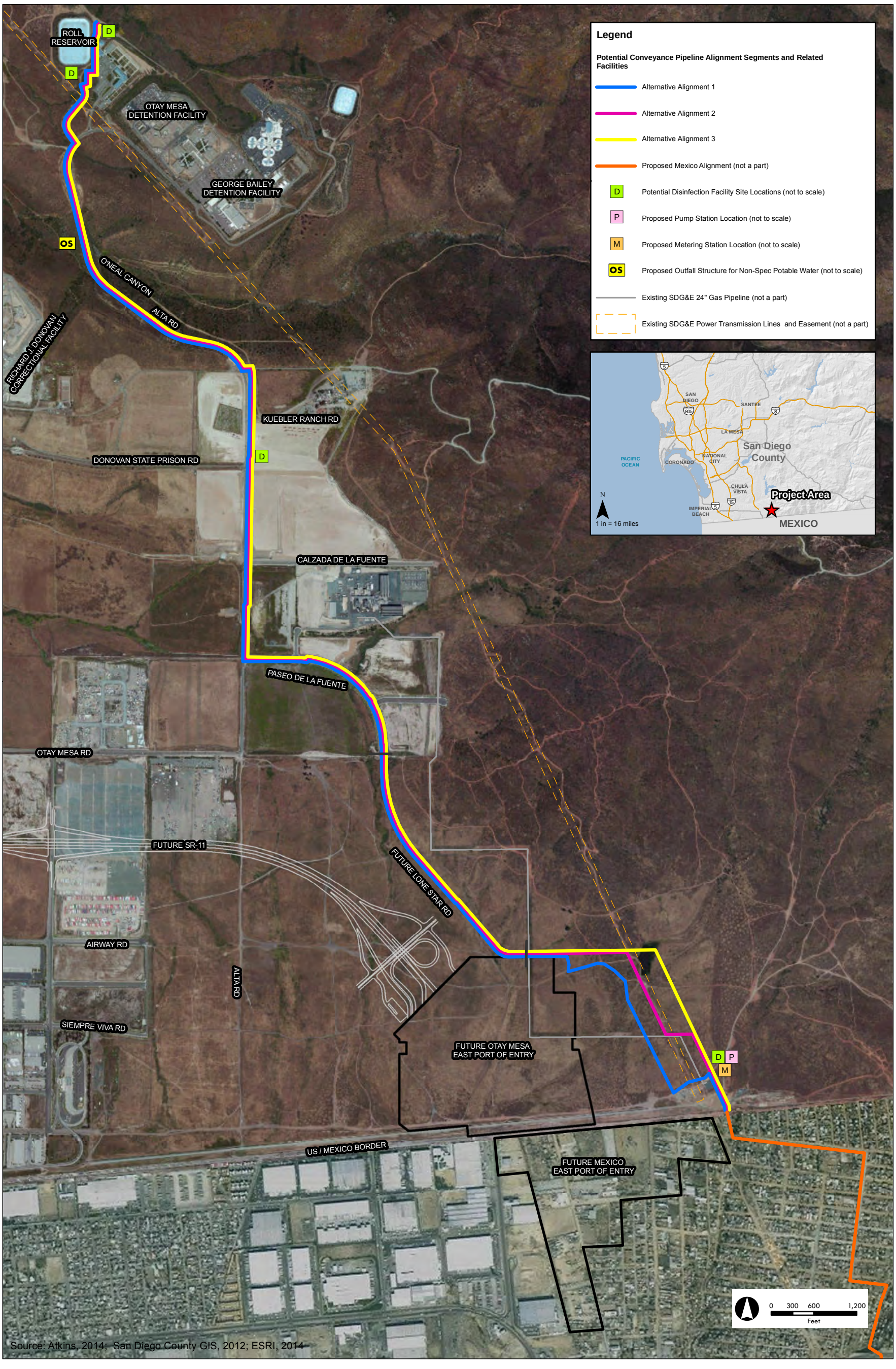
### 1.2.1 Conveyance Pipeline Alignment Alternatives

#### 1.2.1.1 Proposed Alternative Alignment 1

Alternative Alignment 1 proposes a route for the potable water transmission pipeline with a length of approximately 21,809 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border connection point approximately 300 LF east of the SDG&E power transmission lines and easement and continue northwesterly for approximately 569 LF before turning approximately 90 degrees southwesterly for approximately 614 LF along an unpaved dirt road. It would then turn northwest again at approximately 90 degrees and follow a dirt road for approximately 2,889 LF around a curve and a sharp right turn north, slightly east of the connection with the future alignment of Lone Star Road. This is the beginning of the "common segment." From that connection, the proposed pipeline would continue along and within the right-of-way of future Lone Star Road for approximately 4,211 LF until it reaches the existing Paseo de la Fuente (southerly cul-de-sac). The proposed pipeline would then continue along and within the paved Paseo de la Fuente for approximately 2,869 LF until it reaches the intersection with Alta Road. From the intersection of Alta Road and Paseo de la Fuente, the proposed pipeline would continue north for approximately 8,659 LF in the paved roadway to an existing dirt roadway that provides access to Roll Reservoir for 1,999 LF (Figures 1-2 and 1-3).

#### 1.2.1.2 Proposed Alternative Alignment 2

Alternative Alignment 2 proposes a route for the potable water transmission pipeline with a length of approximately 21,404 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 1,176 LF. At this point, the proposed conveyance pipeline would cross beneath the existing SDG&E power transmission lines and easement and continue due west for approximately 377 LF. The proposed conveyance pipeline would then turn again to the northwest for approximately 1,270 LF, before turning due west again for approximately 842 LF to the point where all three proposed alignment alternatives would join, which is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alternative Alignment 1 to its termination point at Roll Reservoir (Figures 1-2 and 1-3).




Source: Image courtesy of USGS © 2014 Microsoft Corporation © 2014 Nokia © AND ; AECOM; ATKINS 2013

0 600 1200 24,00 Feet

**Figure 1-2**
**Proposed Project Alternatives**



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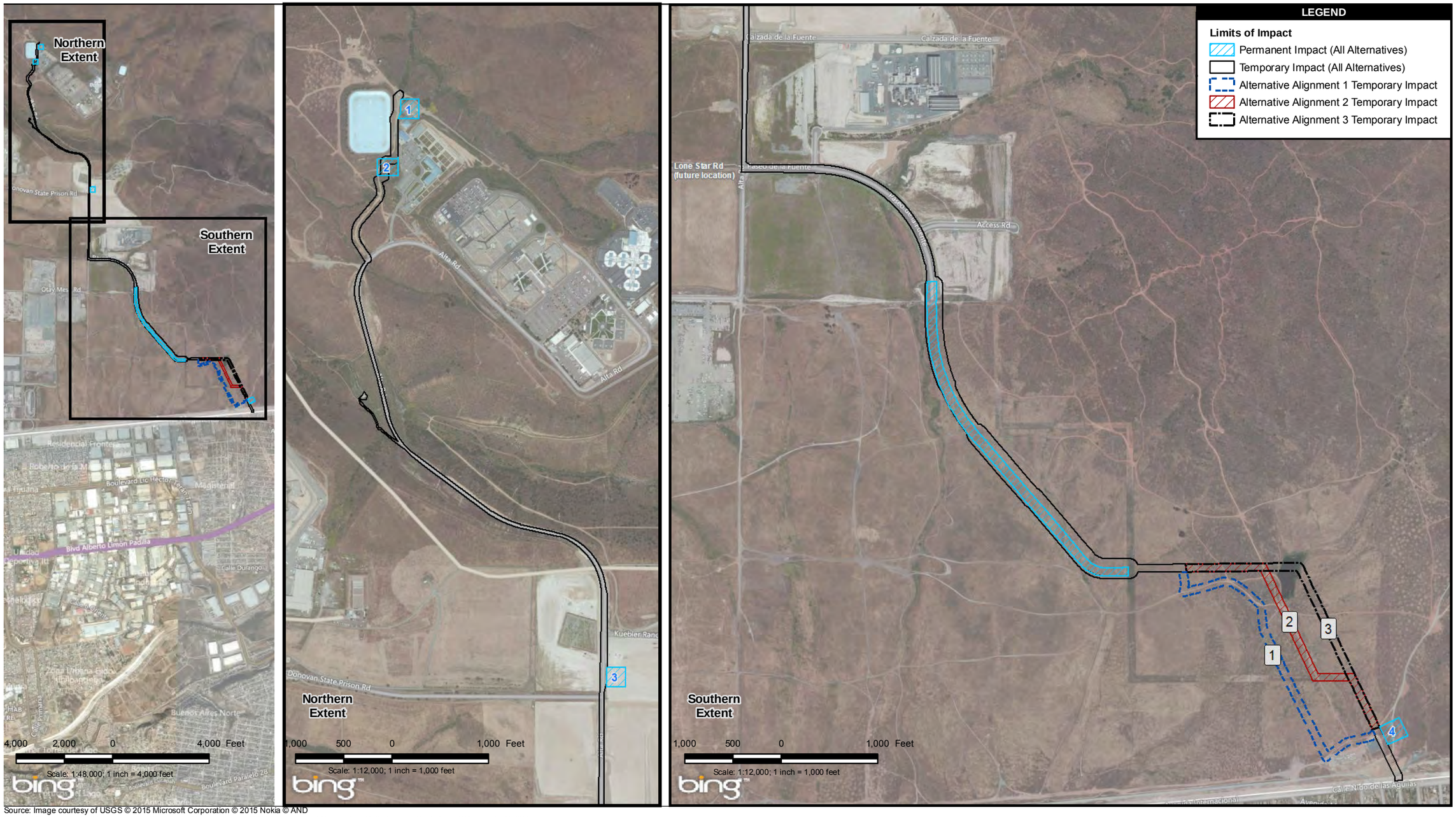


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**Figure 1-3**
**Proposed Project Impact Areas**



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#### 1.2.1.3 Proposed Alternative Alignment 3

Alternative Alignment 3 proposes a route for the potable water transmission pipeline with a length of approximately 22,581 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and would continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 2,448 LF. It would then turn due west, crossing beneath the SDG&E power transmission lines and easement, and continue for approximately 1,218 LF, until it is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alternative Alignment 1 to its termination point at Roll Reservoir (Figures 1-2 and 1-3).

### 1.2.2 Additional Project Infrastructure

#### 1.2.2.1 Metering Station

A metering station is proposed near the U.S./Mexico border, slightly north of the connection point (Figure 1-2). The proposed location for the metering station would be located on the east side of the conveyance pipeline.

#### 1.2.2.2 Potential Pump Station

It is uncertain at this time if the potable water (via the conveyance pipeline) would flow by gravity or if a pump station would be required to convey water to Roll Reservoir. If the water is delivered to the U.S./Mexico border with a hydraulic grade line of approximately 800 feet or more (for sufficient pressure), then the water would flow by gravity to Roll Reservoir and a pump station would not be required. If the required pressure is not provided (terms yet to be agreed upon in a Water Purchase Agreement), then a pump station would likely be required. If a pump station is required, a potential location has been identified near the U.S./Mexico border (within the same footprint as the previously described metering station, north of the connection point) (Figure 1-2). The pump station exterior lighting would consist of six 50-watt high-pressure sodium (HPS) lights on 25-foot poles and four 50-watt HPS “wall packs” on the sides of the building. The lights would be motion sensitive rather than steady burning, and would be downcast and shielded to keep light within the boundary of the Proposed Project. Landscaping would include drought-tolerant California native species for erosion control on slopes.

#### 1.2.2.3 Disinfection Facility

A disinfection facility is proposed at one of four potential locations along the conveyance pipeline alignment alternatives, which includes a potential location at the U.S./Mexico border, adjacent to the metering station; one potential location adjacent to the proposed conveyance pipeline (along the common segment) in an existing disturbed area just east of Alta Road near the intersection of Alta Road and Donovan State Prison Road; and two potential locations around the perimeter of Roll Reservoir (Figure 1-2). The preferred location will be chosen during preliminary design. The disinfection facility exterior lighting would consist of six 50-watt HPS lights on 25-foot poles and four 50-watt HPS wall packs on the sides of the building. The lights would be motion sensitive rather than steady burning, and would be downcast and shielded to keep light within the boundary of the Proposed Project. Landscaping would include drought-tolerant California native species for erosion control on slopes.

#### 1.2.2.4 Outfall Structure for Non-Spec Water

Water quality would be monitored at the desalination plant; in the conveyance pipeline between the plant and the U.S./Mexico border; and in the District's pipeline between the border and Roll Reservoir. If delivered water quality falls outside the specified levels of the Water Purchase Agreement (non-spec water), the District would discharge this water into O'Neal Canyon at an outfall structure located south of Roll Reservoir and west of Alta Road (Figure 1-2). The water would be discharged at a rate typical of the flow rate during a rain event. This outfall structure would consist of pipeline tee fittings and a valve configuration that allows both isolation and control of the non-spec water to be expelled from delivery. Upon rejection of the non-spec water, an energy dissipater, likely consisting of concrete obstructions and directive shapes, would also be constructed on the existing concrete culvert's footprint.

### 1.2.3 <u>Construction Methods</u>

#### 1.2.3.1 Conveyance Pipeline Alignment Alternatives

The proposed conveyance pipeline would be constructed using open-trench methods. Trenches would be approximately 10 feet deep and approximately 8 feet wide when the installation is within existing paved streets (trenches are shored). When installation is outside of paved roadways, the trenches would be approximately 10 feet deep and approximately 28 feet wide (trenches are sloped). An excavator would be used to dig the trenches and load materials into a truck. It is also assumed that the average trenching distance would be approximately 120 feet

during an 8-hour work day. Based on the average trenching distance of approximately 120 feet per day, the construction period for the proposed conveyance pipeline would be approximately 9 to 10 months. Approximately 12 construction workers would undertake construction of the proposed conveyance pipeline.

To be conservative, it is assumed that the Proposed Project would be constructed prior to other approved development in the area (specifically the Otay Crossings Commerce Park project), and would be responsible for improving the common portion of Lone Star Road to its ultimate grade prior to installation of the conveyance pipeline. After conveyance pipeline installation, the future roadway surface would be covered with gravel and the sides revegetated, until the other approved development projects are built. Including the impacts of the proposed conveyance pipeline and the earthwork improvements for the extension of Lone Star Road, construction of Alternative Alignment 1 would result in approximately 35.02 acres of temporary impacts and approximately 12.42 acres of permanent impacts, for a total of approximately 47.44 acres (Figure 1-3). Construction methods for Alternative Alignment 2 and Alternative Alignment 3 would be the same as Alternative Alignment 1. However, Alternative Alignment 2 has a slight physical alignment variation and therefore would result in approximately 34.33 acres of temporary impacts and 12.42 acres of permanent impacts, for a total of approximately 46.75 acres for the construction of the conveyance pipeline (Figure 1-3). Alternative Alignment 3 also has a slight physical alignment variation and therefore would result in approximately 34.33 acres of temporary impacts and 12.42 acres of permanent impacts, for a total of approximately 46.75 acres for the construction of the conveyance pipeline (Figure 1-3).

#### 1.2.3.2 Additional Project Infrastructure

In addition to the construction workers that would undertake construction of the proposed conveyance pipeline, approximately 6 construction workers would be needed for the proposed metering station, approximately 12 construction workers for the proposed disinfection facility, and approximately 12 construction workers for the proposed pump station (if required). Construction methods of the metering station, potential pump station, disinfection facility, and outfall structure would be similar for Alternative Alignments 1, 2, and 3. Construction activities, including ingress and egress into O'Neal Canyon and grading, would result in 2.87 acres of temporary impacts for the conveyance pipeline's associated facilities. The associated facilities' physical structures, associated parking, and landscaping would result in 1.07 acres of permanent impacts.

### 1.2.4 Operations and Maintenance

Operation and maintenance (O&M) of the Proposed Project would be minimal. Vehicles would drive existing and/or constructed roads to access the metering station, potential pump station, and disinfection facility. There would be no disturbance off road. It is assumed up to one trip per day would be required to check the potential pump station and disinfection facility. Chemical deliveries to the disinfection facility would occur once per week in the winter and twice per week in the summer. Landscaping around the potential pump station and disinfection facility would require maintenance once every 2 months.

## 1.3 REGULATORY FRAMEWORK

Several federal, state, and local regulations have been established to protect and conserve biological resources. Table 1-1 below provides a list of regulations applicable to the resources that occur within or adjacent to the Proposed Project.

**Table 1-1**
**Applicable Federal, State, and Local Regulations**

| |
|---|
| ***Federal Regulations*** |
| Presidential Permit |
| National Environmental Policy Act |
| International Boundary and Water Commission |
| Federal Endangered Species Act |
| Migratory Bird Treaty Act |
| Bald and Golden Eagle Protection Act |
| Clean Water Act |
| Executive Order 11988, Floodplain Management |
| Executive Order 11990, Protection of Wetlands |
| Executive Order 13112, Invasive Species |
| ***State Regulations*** |
| California Endangered Species Act |
| California Environmental Quality Act |
| Sections 1600–1602 of the California Fish and Game Code – Lake or Streambed Alteration |
| Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code – Fully Protected Species |
| California Fish and Game Code Section 3503 and 3503.5 – Protection of Birds, Nests, and Raptors |
| California Fish and Game Code 3513 |
| Native Plant Protection Act |
| Porter-Cologne Water Quality Act |
| ***Local Regulations*** |
| San Diego County Multiple Species Conservation Program Subregional Plan |

# CHAPTER 2.0
# METHODS

Prior to conducting field surveys, a search of the California Natural Diversity Database (CNDDB; CDFW 2013) and the California Native Plant Society (CNPS) Electronic Inventory (CNPS 2013) was conducted for the Otay Mesa quadrangle and surrounding five quadrangles in the U.S. (Jamul Mountains, Imperial Beach, National City, Otay Mountain, and Dulzura) to determine if there were any special-status species known from the region within and surrounding the Proposed Project. The USFWS species occurrence database with mapped locations of threatened and endangered species from survey reports required under Section 10 of the federal ESA was also reviewed (USFWS 2015). The proposed State Route 11 and Port of Entry, Otay Crossings, and Otay Business Park projects overlap and occur in the immediate vicinity of the Proposed Project. Environmental documentation prepared for these projects was reviewed to gather information on special-status species that may occur in the vicinity of the Proposed Project. These projects conducted multiple rare plant surveys, San Diego fairy shrimp (*Brachinecta sandiegonensis;* SDFS) and Riverside fairy shrimp (*Streptocephalus woottoni*; RFS) protocol surveys, Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) protocol surveys, western burrowing owl (*Athene cunicularia hypugaea*; WBO) protocol surveys, and coastal California gnatcatcher (*Polioptila californica californica*; CAGN) protocol surveys between 2000 and 2009 (USFWS 2011).

For the purposes of this report, species are considered to have special status if they meet at least one of the following criteria:

- Covered under the federal or California ESA (CDFW 2013; USFWS 2014a).
- CDFW species of special concern (CDFW 2013; Remsen 1978; Williams 1986).
- CDFW fully protected species (CDFW 2013).
- Listed as having a California Rare Plant Rank (CRPR) (formerly CNPS List) as List 1A (presumed extinct in California), 1B (rare, threatened, and endangered in California and elsewhere), or 2 (rare, threatened, or endangered in California, but more common elsewhere). CRPR List 1A, 1B, and 2 species are considered special-status plant species if they fall within any of these categories as defined in the NPPA, CFGC Section 1901 or the California ESA, CFGC Sections 2050 through 2098.

- CRPR List 3: (plants for which more information is needed [a review list]), or List 4 (plants of limited distribution [watch list]) (CNPS 2013).

During 2013 and 2014, surveys and assessments to inventory and evaluate biological resources were conducted within the three alignment alternatives and a buffer around each alignment, referred to as the Study Area. For those resources more mobile and/or sensitive to indirect impacts, such as avian species, a 500-foot-radius buffer was applied to the disturbance footprints as a defined 500-foot Study Area (Figure 2-1). For those resources less mobile and/or sensitive to indirect impacts (such as plant and invertebrate species), a 250-foot-radius buffer was applied to the disturbance footprints as a defined 250-foot Study Area (Figure 2-1). For the jurisdictional delineation, the extent of the proposed disturbance footprints (permanent and temporary direct impact area) was assumed as the Study Area. All study areas were based on preliminary Proposed Project disturbance footprints. Study areas may be slightly larger or smaller than those defined above due to modifications to the footprint after surveys were complete.

Biological surveys for the Proposed Project were performed from March 2013 through September 2013. Following 2013 surveys, additional pipeline alignment alternatives/variations were proposed for consideration near the southern part of the Proposed Project, and additional surveys in this area were conducted from December 2013 through June 2014.[1] Biological surveys and investigations conducted for the Proposed Project include vegetation mapping surveys, focused rare plant surveys, a jurisdictional wetlands delineation, SDFS and RFS protocol surveys, QCB protocol surveys, WBO protocol surveys, CAGN protocol surveys, and least Bell's vireo (*Vireo bellii pusillus*; LBV) protocol surveys.

Special-status species were evaluated for potential to occur within or in the vicinity of the Proposed Project based on historical data collected during data queries and literature reviews and biological survey results. The potential for occurrence of a special-status species was determined based on the following criteria.

1 Follow-up jurisdictional wetlands delineation surveys were also conducted in October and December 2014 due to project alignment modifications (see Jurisdictional Waters and Wetlands Delineation Surveys in Section 2.2).

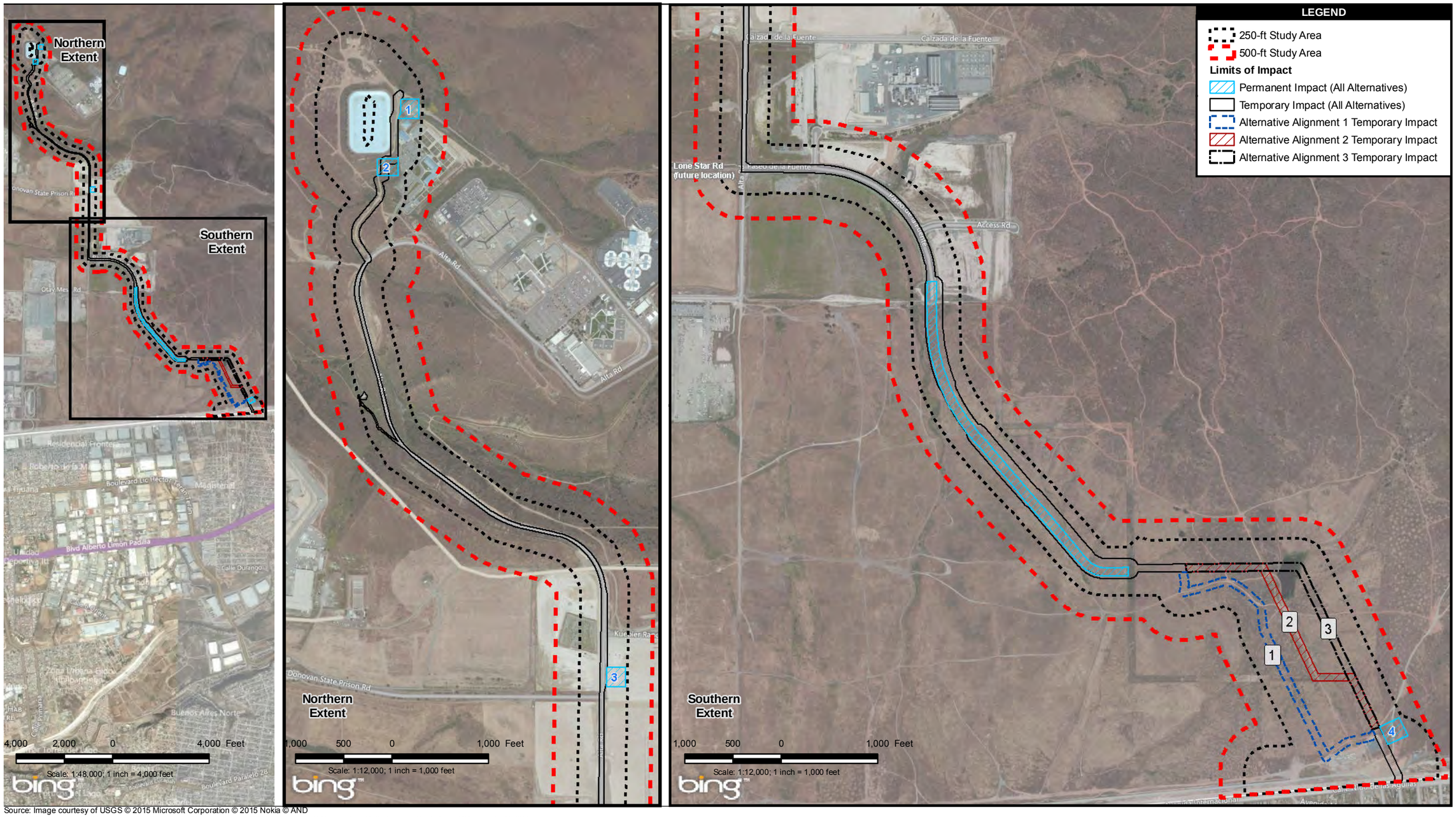


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**Figure 2-1**
**Proposed Project Study Areas**



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Present: Species detected during Proposed Project surveys.

High Potential: Species with known recent (i.e., last 25 years) recorded occurrences/populations nearby (i.e., within the same U.S. Geological Survey [USGS] quadrangle map or an adjacent quadrangle map) and for which highly suitable habitat is present. Suitable habitat includes all necessary habitat elements to support the species (habitat type, soils, cover, food resources, etc.).

Moderate Potential: Species with known recent (i.e., last 25 years) recorded occurrences/ populations nearby (i.e., within the same USGS quadrangle map or an adjacent quadrangle map); however, suitable habitat is moderately disturbed. Suitable habitat for the species could be fragmented or small/limited in size. Additionally, a "moderate" assessment would be made for species for which suitable habitat occurs near the edge of the species' range or there are no reported occurrences/populations from surveys of nearby areas.

Low Potential: Species with few known recent (i.e., last 25 years) recorded occurrences/populations nearby (i.e., within the same USGS quadrangle map or an adjacent quadrangle map), but suitable habitat is highly disturbed or extremely limited in area. Also, species with known historic (i.e., more than 25 years) recorded occurrences/populations from the site or nearby; however, the suitable habitat on-site has been severely reduced or disturbed since past documentation. Additionally, species for which potentially suitable habitat is present but the reported extant range is far from the Proposed Project. For plant species only, a low potential would be assigned to annual or perennial species that would have been detectable during a focused survey in the appropriate blooming period but were not found; however, small populations or scattered individuals are still considered to have a low potential to occur.

Detailed information about each of these survey methodologies is provided below. Survey dates and personnel, including relevant permit information, are summarized in Appendix A. Figures displaying the survey area for each biological resource are included in Chapter 3, Existing Conditions.

## 2.1 VEGETATION MAPPING

Vegetation mapping was conducted within the 500-foot Study Area in April and May 2013 to coincide with wildlife species study areas. In August 2014, surveys were conducted in an additional area not surveyed in 2013 near the southern part of the Proposed Project where pipeline alignment alternatives/variations were proposed for consideration after the completion of 2013 surveys. In addition, a directed search for vernal pool resources was conducted (simultaneously with vegetation mapping) along with maintaining a complete inventory of plant species according to habitat type. Any incidental special-status plant species detected during vegetation mapping were counted and mapped using a Global Positioning System (GPS) unit. Vegetation communities were classified and mapped in the field to provide a baseline of biological resources that occur or have the potential to occur in the Proposed Project. Habitats were classified based on the dominant and characteristic plant species in accordance with the updated Holland description of natural communities titled *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008). The initial vegetation mapping was completed directly in the field and labeled on a field map. Vegetation communities were labeled and each plant community description was documented. The field maps were later digitized and displayed electronically using a geographic information system (GIS). Acreages of each habitat type (delineated as a habitat polygon on the compiled vegetation maps) were calculated using GIS.

## 2.2 JURISDICTIONAL WATERS AND WETLANDS DELINEATION SURVEYS

The delineation survey area is synonymous with the limits of construction (e.g., Proposed Project footprint, including all temporary impact areas and alternative alignments). The delineation survey area only covers the anticipated direct impact footprint. The jurisdictional delineation survey area extends beyond the final proposed disturbance footprint in some locations due to the modifications to the footprint after surveys were complete. Prior to conducting the field delineation for potential jurisdictional waters of the U.S. and state (including wetlands) within the delineation survey area, a pre-field analysis of the delineation survey area was undertaken. This pre-field analysis consisted of the review of historical land use, local and regional climactic data, and areas with topographical configurations and vegetative signatures that may suggest the potential or presence of jurisdictional waters of the U.S. and state at the time of the field survey. Post-delineation data were also compared and confirmed. This information was evaluated by consulting the following available sources:

- 7.5-minute Otay Mesa Quadrangle (USGS 1975)
- The web-based National Hydrography Dataset (USGS 2013a)

- The web-based National Water Information System (USGS 2013b)
- 2010 aerial maps of the survey area (U.S. Department of Agriculture [USDA] National Agriculture Imagery Program) (USDA 2011)
- The web-based Plant Database (USDA 2013)
- The web-based National Wetland Plant List (USACE 2013)
- The web-based National Wetlands Inventory Wetlands Mapper (USFWS 2013a)
- The web-based Water Quality Planning Tool (Caltrans 2013)
- The web-based California Environmental Resources Evaluation System (CERES), California Wetlands Information System Wetland Databases and Inventories (CERES 2013)
- The web-based Information Center for the Environment (U.C. Davis 2013a)
- The Soil Survey of San Diego County (Bowman 1973)
- The web-based Natural Resources Conservation Service (NRCS) Soils Website (NRCS 2013a)
- The web-based NRCS Web Soil Survey (NRCS 2013b)
- The web-based California Soil Resource Lab (U.C. Davis 2013b)
- The web-based Western Regional Climate Center (WRCC 2013)
- The web-based National Weather Service Climate Office (NOAA 2013a)
- The web-based Precipitation Frequency Data Server (NOAA 2013b)
- The web-based Digital Watershed (USEPA 2013)
- The web-based California Watershed Portal (CalEPA 2013)
- The web-based California Watershed Network (CWN 2013)
- The web-based Office of Water Programs, Water Quality Planning Tool (CSUS 2013)
- The web-based Project Clean Water San Diego (Project Clean Water 2013)
- The web-based San Diego County GIS site (SANDAG 2013)
- The web-based San Diego County Flood Control District (SDCFCD 2013)
- The web-based San Diego County Watershed Network (2013)

### 2.2.1 Delineation of Federal Waters

A jurisdictional waters assessment, following the federal guidelines set forth by the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region, Version 2.0* (Environmental Laboratory 2008), was performed within the delineation survey area. Spatial and tabular data were collected using a handheld submeter-accuracy GPS unit during the field assessment. Field-collected spatial and tabular data were exported to ArcGIS software to map the

type, location, and extent of potential jurisdictional waters. Detailed survey methods and results of these assessments for federal waters are presented in the jurisdictional assessments included in *Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Draft Jurisdictional Delineation Report for Waters of the U.S., State of California* (Appendix D) (AECOM 2015).

### 2.2.2 Delineation of State Waters

Areas meeting the criteria for jurisdiction under the CDFW and the San Diego RWQCB were also evaluated and mapped. CDFW asserts jurisdiction over streambeds as they are described in CFGC Section 1600 et seq. and Title 14 CCR 720, which described state jurisdictional waters as follows:

> …all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds which may have intermittent flows of water.

In practice, CDFW usually extends its jurisdictional limit to the top of a stream/river bank, the bank of a lake, or the outer edge of the riparian vegetation, whichever is wider.

RWQCB jurisdiction is considered congruent with that of USACE jurisdiction. The RWQCB also considers whether a feature possesses a "beneficial use" as outlined in the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) (RWQCB 1994) when deciding if RWQCB jurisdiction should be asserted over a feature.

Detailed survey methods and results of these assessments for state waters are presented in the jurisdictional assessments included in *Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Draft Jurisdictional Delineation Report for Waters of the U.S., State of California* (AECOM 2015).

## 2.3 RARE PLANT SURVEYS

Rare plant surveys were conducted in March, April, and May 2013. In February, March, and June 2014, surveys were conducted in an additional area not surveyed in 2013 near the southern part of the Proposed Project where pipeline alignment alternatives/variations were proposed for consideration after the completion of 2013 surveys. The rare plant surveys were timed to coincide with optimal blooming periods of the various sensitive species with potential for occurrence within the 250-foot Study Area. A 250-foot (as compared to a 500-foot) Study Area

was used for botanical surveys since plant species are less mobile and/or sensitive to indirect impacts than wildlife species. Reference populations of key rare plants (i.e., Otay tarplant [*Deinandra conjugens*] and variegated dudleya [*Dudleya variegata*]) were visited in nearby known locations outside the 250-foot Study Area to help determine the optimal blooming period given the current conditions for 2013. The methodology for the rare plant surveys followed the accepted guidelines for rare, threatened, and endangered plants and plant communities (CDFG 2009; USFWS 2000; CNPS 2001). Focused walking surveys were conducted using observer-controlled meandering transects within the 250-foot Study Area. A focused vernal pool floristic survey was conducted and a complete floral inventory was recorded for each potential vernal pool. Rare plants detected were counted and mapped using a GPS unit. During rare plant surveys, field botanists recorded a complete floral inventory (Appendix B). Plant nomenclature followed that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012).

## 2.4 GENERAL WILDLIFE SURVEYS

The suitability of habitats for special-status wildlife species within the 500-foot Study Area was evaluated during general wildlife surveys. A 500-foot (as compared to a 250-foot)_ Study Area was used for wildlife habitat assessments since wildlife species, excluding invertebrates, are more mobile and/or sensitive to indirect impacts than plant or invertebrate species. These surveys occurred concurrently with focused protocol surveys. These surveys coincided with times of the year when the wildlife species occurring in the 500-foot Study Area would be more conspicuous or readily observable in the field (e.g., breeding season). AECOM biologists incidentally recorded wildlife sign, track, and direct observations during focused protocol surveys. These observed wildlife species are included in Appendix C.

## 2.5 SAN DIEGO AND RIVERSIDE FAIRY SHRIMP

Focused protocol surveys were conducted for federally listed vernal pool branchiopods, specifically SDFS and RFS, per the criteria set by the *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (USFWS 1996). A complete survey consists of sampling for either of the following:

1. two full wet-season surveys performed within a 5-year period; or
2. two consecutive seasons of one full wet-season survey and one dry-season survey (or one dry-season survey and one full wet-season survey).

One full wet-season of surveys consisting of 11 focused protocol surveys was completed December 6, 2013 through April 13, 2014. AECOM biologists Lance Woolley and Andrew Fisher conducted the surveys under Endangered Species Permit TE-820658-6. A second season of surveys was not completed due to the extensive fairy shrimp surveys that have been completed and known occurrence of SDFS and RFS in the vicinity of the Proposed Project (USFWS 2011, 2015).

The 2013/2014 surveys were conducted within the 250-foot Study Area. A 250-foot (as compared to a 500-foot) Study Area was used for surveys since fairy shrimp species are less mobile and/or sensitive to indirect impacts than other wildlife species. Wet-season surveys commenced with the initial inundation of vernal pools in December 2013 and continued until the vernal pools were no longer inundated or until they had experienced 120 days of continuous inundation. Any temporary ponded area occurring within the 250-foot Study Area was surveyed for the presence of shrimp, but no collections were made from these areas. After AECOM biologists completed the second survey, it was discovered that fairy shrimp surveying for the Otay Crossing Commerce Park project overlapped with the Proposed Project. Five temporary ponded areas were in this area of overlap, and Helix Environmental (Helix) agreed to complete protocol surveys for these temporary ponded areas to avoid double sampling.

Detailed survey results for these temporary ponded areas sampled by Helix are presented in *Otay Crossings Commerce Park Wet Season San Diego and Riverside Fairy Shrimp Survey Report* prepared by Helix (2014). AECOM's detailed methods and results of the focused SDFS and RFS surveys are presented in *2013/2014 Otay Water District's Otay Mesa Conveyance and Disinfection System Project Listed Branchiopod Species 90-Day Report of Protocol Wet-Season Surveys, San Diego County, California* (AECOM 2014a).

## 2.6 QUINO CHECKERSPOT BUTTERFLY SURVEYS

Focused protocol surveys for QCB were conducted within the 250-foot Study Area to determine the extent of potentially suitable habitat and determine presence or absence of the species. A 250-foot (as compared to a 500-foot) Study Area was used for surveys since QCB are less mobile and/or sensitive to indirect impacts than other wildlife species. Prior to surveys, a QCB habitat assessment was conducted in accordance with the *Survey Protocol for the Endangered Quino Checkerspot Butterfly* (*Euphydryas editha quino*) (USFWS 2002) to determine the extent of potentially suitable habitat within the 250-foot Study Area.

Protocol-level surveys for QCB were determined necessary due to the presence of suitable QCB habitat (including larval host and nectar plants) and known historical occurrences within and adjacent to the 250-foot Study Area. The 250-foot Study Area occurs in Area 1 of the USFWS Quino Recommended Survey Area Map, within which capture of QCB is not allowed (USFWS 2005). The QCB survey area was approximately 277 acres within the 250-foot Study Area, pursuant to the habitat assessment and protocol guidelines mentioned above. Potential vegetation communities that were surveyed for QCB primarily included native and nonnative grassland, Diegan coastal sage scrub, southern mixed chaparral, and disturbed habitat. These vegetation communities generally contained populations of QCB host plants, nectar sources, or other resources that QCB may use (e.g., hilltops, ridges, open soils). Small, narrow patches of other vegetation community types such as eucalyptus woodland and vernal pool were also surveyed via visual scan for any sign of QCB passing through these areas, because the areas could not be excluded according to the USFWS 2002 protocol (USFWS 2002). Habitat excluded from QCB surveys based on the USFWS 2002 protocol included urban/developed areas such as buildings, paved roads, cement road shoulders, adjacent ornamental plants, gravel parking lots, and water retention basins.

QCB surveys in 2013 were conducted following the USFWS 2002 QCB survey protocol (USFWS 2002). The 2013 QCB surveys were conducted for 6 weeks. The initial 5 weeks of surveys reflect the recommended minimum duration of focused QCB presence/absence surveys required per the current USFWS survey protocol to cover the flight season (USFWS 2002). Biologists monitored QCB activity and assessed the conditions of host plants and nectar sources throughout the 250-foot Study Area. After survey week 3 of 2013, USFWS requested that QCB surveys cease in the northwestern part of the QCB survey area, where Quino had been detected during the first three surveys (USFWS 2013c). USFWS requested that this area no longer be surveyed to prevent potential disturbance to QCB-occupied habitat, and because QCB were well documented within the area. In 2013, surveys were extended an additional sixth survey week within the remainder of the QCB survey area because host plants were mature and blooming, and nectar resources remained abundant, with minimal signs of drying up during weeks 4 and 5. During week 6 of 2013, it was observed that host plants and a majority of nectar sources were drying up, and a decrease in butterfly activity was noted. Additionally, QCB were no longer being reported from other locations in the vicinity by other biologists. Surveys were, therefore, discontinued after week 6.

QCB surveys in 2014 were conducted following the USFWS 2014 QCB survey protocol (USFWS 2014b). The 2014 QCB surveys were conducted for 12 weeks in an additional area not surveyed in 2013 near the southeastern part of the Proposed Project where pipeline alignment

alternatives/variations were proposed for consideration after the completion of 2013 surveys. The 2014 survey area was approximately 28 acres. Surveys were not repeated in areas surveyed in 2013 due to the extensive QCB surveys (i.e., QCB surveys completed in 2001, 2005, 2006, and 2009) that have been completed and known occurrence of QCB in the vicinity of the Proposed Project (USFWS 2011, 2015). Because QCB was not detected during the initial 5 weeks of surveys in 2014, surveys continued weekly until the second Saturday in May (May 5, 2014), following USFWS 2014 survey protocol (USFWS 2014b).

Focused presence/absence QCB surveys within the project QCB survey area occurred from March 5 through April 10, 2013 and from February 20, 2014 through May 5, 2014. Surveys were conducted under TE-820658 by permitted AECOM biologists Erin Bergman, Barbra Calantas, Andrew Fisher, Bonnie Hendricks, and Erin Riley. Supervised biologists who accompanied permitted biologists during 2014 surveys were Eric Piehel, Lance Woolley, and Brynne Mulrooney. Detailed methods and results of the focused QCB surveys conducted during 2013 and 2014 are presented in the 2013 and 2014 *Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Quino Checkerspot Butterfly 45-Day Summary Report, San Diego County, California* (AECOM 2013a, 2014b).

## 2.7 COASTAL CALIFORNIA GNATCATCHER SURVEYS

Due to the presence of suitable habitat for CAGN in the 500-foot Study Area, including coastal sage scrub habitat, focused presence/absence surveys were determined necessary. A 500-foot (as compared to a 250-foot) Study Area was used for surveys since CAGN are more mobile and/or sensitive to indirect impacts than plant or invertebrate species. Protocol-level surveys were conducted by AECOM wildlife biologists Brennan Mulrooney, James McMorran, and Andrew Fisher under TE-820658-6 between March 22 and June 20, 2013, in all suitable CAGN habitat within the 500-foot Study Area (approximately 105 acres).

Protocol surveys followed the current USFWS survey protocol for the species (USFWS 1997a). According to protocol, 6 surveys were conducted at least 1 week apart between March 15 and June 30. The surveys consisted of walking meandering transects and conducting passive surveillance (i.e., listening and looking for the species) in all habitats with potential to support the species, including all scrub habitats. If an observation was not made after approximately 5 to 10 minutes of passive survey activity, a digital vocalization of CAGN was broadcast for approximately 5 to 10 seconds (i.e., active survey activity), followed by another period of passive observation. The digital vocalization was discontinued with any positive CAGN

response. The location of all CAGN detections was recorded as well as a list of all avian species detected.

Detailed methods and results of the focused CAGN surveys are presented in the *2013 Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Coastal California Gnatcatcher 45-Day Summary Report, San Diego County, California* (AECOM 2013b).

## 2.8 LEAST BELL'S VIREO SURVEYS

Due to the presence of suitable habitat in the 500-foot Study Area, focused surveys for LBV were determined necessary. The LBV survey area was limited to all riparian scrub habitats, and other canyon bottom habitats containing taller stature southern maritime chaparral, and coastal sage scrub, totaling approximately 9 acres. A 500-foot (as compared to a 250-foot) Study Area was used for surveys since LBV are more mobile and/or sensitive to indirect impacts than plant or invertebrate species. Protocol-level surveys were conducted between April 18 and July 19, 2013, following current USFWS survey protocol for the species (USFWS 2001). Biologists walked all potential LBV habitat and conducted passive surveillance (i.e., listening and looking for the species). Per the current USFWS protocol, suitable habitats within the survey area were surveyed eight times, at least 10 days apart, during the LBV breeding period (April 10 through July 31). In addition to any LBV observations/detections, all avian species detected were recorded.

Detailed methods and results of the focused LBV surveys are presented in the *2013 Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Least Bell's Vireo 45-Day Summary Report, San Diego County, California* (AECOM 2013c).

## 2.9 WESTERN BURROWING OWL SURVEYS

Due to the presence of suitable habitat for WBO, including grassland and scrub habitat with low growing vegetation, focused presence/absence surveys were determined necessary. Approximately 317 acres of suitable habitat was surveyed for WBO combined between 2013 and 2014. Per CDFW's 2012 WBO breeding season protocol, four surveys were conducted within the 500-foot Study Area, with one survey between February 15 and April 15, two surveys between April 15 and June 15, and one survey between June 15 and July 15. A 500-foot (as compared to a 250-foot) Study Area was used for surveys since this is required per the CDFW's 2012 WBO breeding season protocol and since BUOW are more mobile and/or sensitive to indirect impacts than plant or invertebrate species. Surveys were completed between March 18

and July 3 in 2013. In 2014, surveys were conducted between April 6 and June 24 in an additional area not surveyed in 2013 near the southeastern part of the Proposed Project where pipeline alignment alternatives/variations were proposed for consideration after the completion of 2013 surveys. The 2014 survey area was approximately 21 acres. An additional approximately 9 acres of suitable habitat in the 500-foot-radius buffer was not surveyed due to project adjustments at the completion of 2014 surveys. Additional surveys were not repeated in areas surveyed in 2013 or in the 9 acres of suitable habitat not surveyed due to the extensive WBO surveys (i.e., WBO surveys completed in 2000–2006 and 2009) that have been completed in this region and known occurrence of WBO in the vicinity of the Proposed Project (USFWS 2011; Helix 2011).

All surveys were conducted at least 3 weeks apart. Surveys were conducted generally from approximately 30 minutes before sunrise until 10:00 a.m. and 2 hours before sunset until approximately 30 minutes after sunset (CDFG 2012). Surveys were conducted by walking straight-line transects spaced approximately 66 feet apart, the maximum allowable, due to the minimal vegetation in suitable habitat throughout the 500-foot Study Area. During each survey, individual WBO and potentially suitable WBO burrows detected were recorded and marked using GPS equipment. At each WBO observation located at burrows, the number and age of individuals were recorded and the WBO individual locations were marked at the burrow. At each WBO observation not associated with a burrow (i.e., incidental WBO observations), the number and age of individuals were recorded and the WBO individual locations were marked where the owl was initially detected. Additional notes, such as WBO behavior, were recorded as necessary.

Detailed methods and results of the focused WBO surveys are presented in the *2013 Otay Water District's Otay Mesa Conveyance and Disinfection System Project, Western Burrowing Owl Survey Report, San Diego County, California* (AECOM 2013d) and *2014 Otay Water District's Otay Mesa Conveyance and Disinfection System Project Western Burrowing Owl Survey Report, San Diego County, California* (AECOM 2014c).

# CHAPTER 3.0
# EXISTING CONDITIONS

## 3.1 PHYSICAL SETTING

The Proposed Project is located west of and adjacent to Otay Mountain, and includes several adjacent valleys and mesa tops. The Study Area has varied topography, which includes gently sloping hillsides, flat grasslands, shallow valleys, steep canyons, mesa tops, and disturbed and developed areas. Elevation within the 500-foot Study Area ranges from approximately 500 to 700 feet above mean sea level (amsl). Commercial and industrial developments associated with Alta Road and Paseo de la Fuente Road are located within and adjacent to the BSA.

## 3.2 VEGETATION COMMUNITIES

Vegetation communities are assemblages of plant species that usually coexist in the same area. These vegetation communities also provide habitat for wildlife species. The classification of vegetation communities is based upon the life form of the dominant species within that community and the associated flora. Descriptions of these vegetation communities and other cover types are provided in the following discussion. Three generalized categories are being used to characterize and discuss the land cover types observed during vegetation community mapping: riparian and wetlands, uplands, and other cover types. Vegetation classification systems used in this BTR follow those of Holland (1986), as modified by Oberbauer et al. (2008).

Vegetation communities and other land cover types classified as “sensitive” within this report were determined by applying the following regulatory context. Guidance for determining sensitive vegetation communities is provided by the resource agencies, including CDFW, and CNPS, as well as supporting documentation such as the CNDDB. These federal and state and related publications are typically in concurrence on the classification of sensitive vegetation communities and other land cover types. For example, vegetation communities or other cover types that are considered potential U.S. and state jurisdictional areas typically result in the vegetation community or nonvegetated area being considered sensitive. For this Proposed Project, these waters are regulated by Sections 401 and 404 of the CWA, Sections 1600 et seq. of the CFGC, and Porter-Cologne. Additionally, the occurrence of suitable habitat for special-status plant and animal species also raises the sensitivity of a vegetation community. Biologically, the vegetation communities that provide the highest habitat values within the 500-foot Study Area are the structurally diverse riparian communities and the native upland communities.

Sixteen vegetation communities and land cover types were mapped within the 500-foot Study Area (Table 3-1; Figure 3-1). The majority of vegetation within the 500-foot Study Area consists of three open-canopy plant communities. In order of prevalence these are grasslands, coastal sage scrub, and disturbed land. Several small streams and swales within the 500-foot Study Area support a number of wetland communities, described below. The plant communities are discussed below and are consistent with the plant community descriptions within the Holland (1986) and Oberbauer et al. (2008) community classification systems.

**Table 3-1**
**Vegetation Communities and Other Cover Types within the 500-foot Study Area**

| Vegetation Communities and Other Cover Types | Total (Acres) |
|---|---|
| ***Riparian and Wetland*** | |
| Alkali Seep | 2.98 |
| Freshwater Marsh | 0.52 |
| Freshwater Seep | 2.53 |
| Mulefat Scrub | 0.18 |
| Road Pools | 0.06 |
| Southern Arroyo Willow Riparian Forest | 1.22 |
| Southern Willow Scrub | 3.63 |
| Tamarisk Scrub | 1.87 |
| Vernal Pools | 0.01 |
| *Total Riparian and Wetland* [1] | *12.99* |
| ***Upland*** | |
| Diegan Coastal Sage Scrub | 157.48 |
| Native Grassland | 30.56 |
| Nonnative Grassland | 182.55 |
| Southern Mixed Chaparral | 3.96 |
| *Total Upland* [1] | *374.25* |
| ***Other Cover Types*** | |
| Disturbed Habitat | 111.67 |
| Eucalyptus Woodland | 0.11 |
| Urban/Developed | 58.43 |
| *Total Other Cover Type* [1] | *170.21* |
| **Total**[1] | **557.44** |

[1] Values may not sum due to rounding after summation.

### 3.2.1 Riparian and Wetland

Vernal Pools

Vernal pools are ephemeral plant communities that support unusual flora and fauna. This is reflected by the high number of species that are endemic (i.e., species that have a high fidelity to

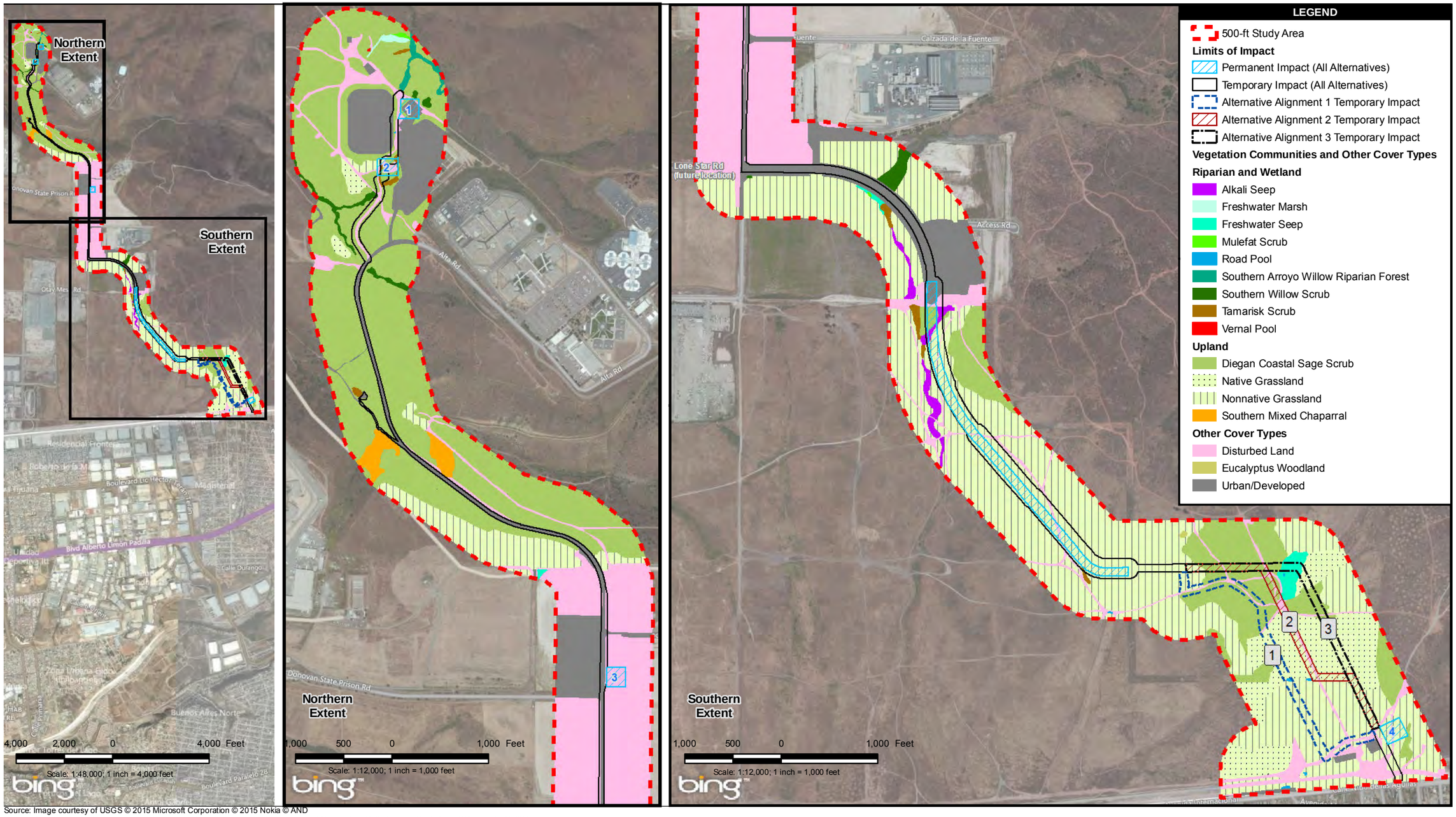


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**Figure 3-1**
**Vegetation Communities**

Otay Mesa Conveyance and Disinfection System Project BTR

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a certain region or habitat) to vernal pools. Several topographic and edaphic (soil-related) conditions are prerequisites for the occurrence of vernal pools. The topography is often a series of microdepressions (vernal pools) and microhummocks (mima mounds). The depressions collect water from precipitation and runoff from the mima mounds.

Indicator species of vernal pools in the 500-foot Study Area include wooly marbles (*Psilocarphus brevissimus*), pygmy crassula (*Crassula aquatica*), and coast plantain (*Plantago bigelovii*). One vernal pool with the above indicator species was detected within the 500-foot Study Area at the far north end of the project alignment. This pool also contained loosestrife hyssop (*Lythrum hyssopifolium*), pale spike-sedge (*Eleocharis macrostachya*), fascicled tarplant (*Deinandra fasciculata*), and toad rush (*Juncus bufonius*), and appeared to be a natural pool disturbed by tire tracks. This area was heavily disturbed by border patrol vehicles and gravel fill in a part of the depression. During the wetland delineation survey in September 2013, it appeared that additional gravel fill had been placed and no vernal pool species remained. This feature was not delineated as a jurisdictional wetland because there was less than 5% vegetative cover during both the April and September surveys. It has, however, been classified and mapped as a road pool.

Road Pools

Road pools are sparsely vegetated or unvegetated seasonal ponds that have been altered or created by intensive human disturbance, specifically established roads. Road pools are considered sensitive because of their potential to provide habitat for federally listed endangered fairy shrimp species and their similar, although reduced, function as vernal pools.

Several road pools that had evidence of ponded water this winter (2012/2013) were identified within or on the shoulders of dirt roads in the 500-foot Study Area, primarily in the southern reach of the southeastern segment of the 500-foot Study Area (Figure 3-1). These road pools, although largely unvegetated, supported largely nonnative wetland or upland vegetation, including loosestrife hyssop, bur-clover (*Medicago polymorpha*), wild rye (*Festuca perenne*), wild barley (*Hordeum marinum* ssp. *gussoneanum*), and little-seed canary grass (*Phalaris minor*).

Freshwater Seep

Freshwater seep is a wetland community dominated by perennial herbs, especially sedges and grasses. This habitat is seasonally to permanently moist, and often occurs in shallow swales or

seasonal streambeds. It differs from freshwater marsh in that it is usually low-growing and is not perennially inundated with water. Freshwater seep is associated with an ephemeral stream in the southeastern segment of the 500-foot Study Area, which is artificially impounded by a road berm crossing the broad low-lying area of the drainage (Figure 3-1). This community within in the 500-foot Study Area contains broad-leaved herbs such as western ragweed (*Ambrosia psilostachya*) and alkali mallow (*Malvella leprosa*), in addition to spike sedge (*Eleocharis macrostachya*), rushes (*Juncus dubious, J. mexicanus*), and grasses (*Sisirynchium bellum, Bromus hordeacous*, etc.).

Alkali Seep

Alkali seep is a community dominated by perennial, emergent monocots that grow in soils that are saturated during at least part of the year. High evaporation rates combined with low flow levels of fresh water create high saline conditions, which are particularly prevalent during the summer months (Holland 1986). This community occurs along ephemeral streams and floodplains and was the primary community associated with the ephemeral streams in the southeastern segment of the 500-foot Study Area (Figure 3-1). Dominant species in this community within the 500-foot Study Area include San Diego marsh elder (*Iva hayesiana*) and salt grass (*Distichlis spicata* var. *stricta*), with spiny rush (*Juncus acutus* ssp. *leopoldii*) occurring sporadically. Where this habitat has been disturbed, curly dock (*Rumex crispus*), perennial ryegrass (*Lolium perenne*), and bristly ox-tongue (*Helminthotheca echioides*) predominate.

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, 4.3 to 6.6 feet tall. Freshwater marsh occurs in wetlands that are permanently flooded by standing fresh water (Holland 1986). Dense stands of cattails (*Typha domengensis*) and bulrushes (*Scirpus* spp.) in channel bottoms characterize this habitat within the 500-foot Study Area at the northern end where a perennial stream emerges from the water detention facility (Figure 3-1). Other species present in this community include mariposa rush (*Juncus dubious*), wild celery (*Apium graveolens*), and marsh fleabane (*Pluchea odorata*).

Southern Arroyo Willow Riparian Forest

Southern arroyo willow riparian forest is a tall, densely vegetated riparian forest that is dominated by arroyo willow (*Salix lasiolepis*) and other willow species such as Goodding's

black willow (*Salix gooddingii*), red willow (*Salix laevigata*), and narrow-leaved willow (*Salix exigua*). This community is generally greater than 20 feet high and occupies a drainage at the north end of the project alignment supporting a perennially wet stream (Figure 3-1). Understory species such as mulefat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), and stinging nettle (*Urtica dioica* ssp. *holosericea*) are also present.

Mulefat Scrub

Mulefat scrub is a riparian shrub community that is strongly dominated by mulefat. This community within the 500-foot Study Area is densely shrub-dominated and has little to no understory. Tamarisk (*Tamarix ramossisima*) occurs in association with the primarily mulefat-dominated community in the northern and middle sections of the 500-foot Study Area (Figure 3-1). This community is found on a fairly coarse substrate and moderately deep water table.

Southern Willow Scrub

Southern willow scrub is a dense, broad-leaved, winter-deciduous riparian thicket dominated by willow species (*Salix* spp.) in association with mulefat. This is an early seral community that requires periodic flooding for its maintenance (Holland 1986). In the absence of periodic flooding, this community would develop into a riparian woodland or forest. In the northern segment of the 500-foot Study Area, two small tributaries to the Otay River cross the 500-foot Study Area and merge together on the western edge of the 500-foot Study Area (Figure 3-1). These drainages are narrow but are densely occupied by arroyo willow (*Salix lasiolepis*)-dominated southern willow scrub with a variety of understory species including seep monkeyflower (*Mimulus guttatus*). A relatively large area of sparse southern willow scrub occurs in a detention basin and restoration area on the north side of Paseo de la Fuente at the northern end of the southeast segment of the 500-foot Study Area (Figure 3-1). This area is dominated by sandbar willow (*Salix exigua*), with mulefat, coyote bush (*Baccharis pilularis*), cattail, and evening primrose (*Oenothera deltoids*).

Tamarisk Scrub

Tamarisk scrub is a riparian scrub community, sometimes an almost exclusive monoculture, of nonnative species of the genus *Tamarix*. This community occurs in drainages where major disturbance has eliminated most native species. The tamarisk scrub habitat within the 500-foot Study Area also has a component of mulefat in many areas, and has displaced some of the native alkali seep habitat within the 500-foot Study Area, particularly in two small areas of the

ephemeral drainage in the southeastern segment of the BSA (Figure 3-1). Tamarisk is a phreatophyte, a species with an extensive root system that allows it to obtain water from a low water table. This allows tamarisk species to outcompete native riparian species by lowering the water table to levels below the root zone of other species. Tamarisks also have high evaporation rates, which increase soil salinity levels and result in the displacement of other species. A high seed production allows tamarisk species to colonize areas where they have displaced native species (Holland 1986).

### 3.2.2 Upland Vegetation Communities

Diegan Coastal Sage Scrub

Diegan coastal sage scrub is composed of low, soft-woody subshrubs to about 3 feet high; it is one of the major shrub-dominated (scrub) communities within California. This community occurs on xeric sites with shallow soils or on dry sites such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Sage scrub species are typically drought-deciduous plants with shallow root systems. Both of these adaptations allow for the occurrence of sage scrub species on xeric sites. This community is dominated by a variety of species, but California sagebrush (*Artemisia californica*) is prevalent in this community, often occurring with various codominant species.

Within the 500-foot Study Area, coastal sage scrub is the most prevalent native vegetation community. This vegetation type occurs throughout the northern half of the northern segment of the 500-foot Study Area and also occurs in a couple of large patches in the southeastern segment of the 500-foot Study Area. Within the coastal sage scrub community within the 500-foot Study Area (Figure 3-1), the southeast-facing slopes are often dominated by San Diego sunflower (*Bahiopsis laciniata*), flat-top buckwheat (*Eriogonum fasciculatum*), and California sagebrush with openings of native grassland, including purple needlegrass (*Nasella pulchra*) and ashy spike moss (*Selaginella cinerascens*). The north-facing slopes within the 500-foot Study Area are often dominated by lemonade berry (*Rhus integrifolia*), California sagebrush, Munz's sage (*Salvia munzii*), and white sage (*Salvia apiana*).

A disturbed phase of Diegan coastal sage scrub was identified and mapped in several areas based on the predominance of herbaceous vegetation and presence of remnant patches of native shrub species. This community was dominated by fascicled tarplant and flat-top buckwheat, with rattail fescue (*Festuca myuros*) and soft chess (*Bromus hordeacous*).

Southern Mixed Chaparral

Southern mixed chaparral is a diverse mixture of sclerophyllous shrubs that occurs in the foothills of San Diego County and northern Baja California (Holland 1986). The community structure of southern mixed chaparral is more complex than other chaparral communities. It has greater canopy height and higher cover values.

Within the 500-foot Study Area, southern mixed chaparral occurs in a relatively small area in the northern segment of the 500-foot Study Area on north-facing slopes where microenvironmental conditions are more mesic (Figure 3-1). Scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), Munz's sage, mission manzanita (*Xylococcus bicolor*), and chamise (*Adenostoma fasciculatum*) were the most abundant species in this community within the 500-foot Study Area.

Native Grassland

Native grasslands are communities dominated by perennial bunchgrasses such as needlegrass (*Stipa* spp.). Valley needlegrass grassland, described by Holland (1986), is characterized by a relatively low (greater than 10%) to dense herbaceous cover of the perennial, tussock-forming species, purple needlegrass. Native and introduced annuals occur between the needlegrass, often actually exceeding bunchgrass in cover (Holland 1986). This association generally occurs on fine-textured clay soils that are moist or wet in winter but very dry in summer. Shrubs are infrequent, probably due to the unstable clay soils. In addition to purple needlegrass, indicator species include California blue-eyed grass (*Sisyrinchium bellum*), mariposa lily (*Calochortus splendens*), and clarkia (*Clarkia* spp.), among others.

This community was concentrated in the southeastern segment of the 500-foot Study Area and in a couple of small patches in the northern segment of the 500-foot Study Area (Figure 3-1). It was characterized by purple needlegrass, brome grasses (*Bromus* spp.), and annual and perennial forbs such as fascicled tarplant, Douglas' silver puffs (*Microseris douglasii* ssp. *platycarpha*), Cleveland's goldenstar (*Bloomeria clevlandii*), and California blue-eyed grass.

Nonnative Grassland

Most of the grasslands in the coastal and foothill areas of San Diego County are dominated by exotic, annual grasses of Mediterranean origin. Nonnative grassland generally occurs on fine-textured loam or clay soils that are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized by a dense to sparse cover of annual grasses, often with native and nonnative annual forbs (Holland 1986).

This community occurs throughout the 500-foot Study Area making up the majority of habitat in the southeastern segment of the 500-foot Study Area (Figure 3-1). Dominant grasses within this community in the 500-foot Study Area include ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess, wild oats (*Avena* spp.), and rat-tail fescue. Nonnative disturbance-related annuals such as stork's bill (*Erodium cicutarium*) and star thistle (*Centaurea melitensis*) are codominants in this community. Although named as a nonnative community, this community has significant biological value since it provides foraging and nesting habitat for sensitive wildlife species such as northern harrier (*Circus cyaneus*) and WBO.

### 3.2.3 Other Cover Types

Disturbed Habitat

Disturbed habitat is any land that has been permanently altered by previous human activity, including grading, repeated clearing, intensive agriculture, vehicular damage, or dirt roads. Disturbed land is typically characterized by more than 50% bare ground and an absence of remnant native vegetation. Furthermore, the previous disturbance was severe enough to eliminate future potential biological value of the land without active restoration. Native vegetation has been eliminated by grading, agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of another plant association within the 500-foot Study Area. Vegetation is sparse, when present, and typically includes nonnative weed species such as mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), and star thistle, among others.

Disturbed habitat is found throughout the middle section of the 500-foot Study Area where several large lots were graded and prepared for future industrial development (Figure 3-1). However, these areas are predominantly bare ground.

Urban/Developed

Developed areas support no native vegetation and may be additionally characterized by the presence of built structures such as buildings or paved roads. Developed areas may include ornamental vegetation.

Throughout the 500-foot Study Area, developed land includes paved roads and associated ornamental vegetation, such as a ground cover of myoporum (*Myoporum parvifolium*) and lantana (*Lantana camara*), and associated palm (*Washingtonia* sp.) and pine (*Pinus* sp.) trees.

Urban/developed land is also found at the northern end of the 500-foot Study Area associated with an impermeable water basin and a shooting range. The other portions of developed land include parking lots, industrial buildings, and paved roads, and are associated with Alta Road and Paseo de la Fuente Road within the 500-foot Study Area (Figure 3-1).

Eucalyptus Woodland

This community is dominated by several species of eucalyptus (*Eucalyptus* spp.). Eucalyptus produces large amounts of leaf and bark litter, the chemical composition of which may inhibit the establishment and growth of other species, especially natives, in the understory. Generally, eucalyptus species were planted for aesthetic and horticultural purposes, but many species of eucalyptus have become naturalized and have been quite successful in invading riparian areas.

Eucalyptus woodland is limited to a small stand of eucalyptus trees on the low hilltop in the southeastern portion of the 500-foot Study Area, and has not invaded riparian habitats in the 500-foot Study Area (Figure 3-1).

## 3.3 JURISDICTIONAL WATERS AND WETLANDS

A total of 0.136 acre[2] of potential jurisdictional waters of the U.S. and state was identified within the delineation survey area for the Proposed Project (Table 3-2; Figure 3-2). The 0.136 acre of waters of the U.S. and state is composed of approximately 0.035 acre of southern willow scrub, 0.079 acre of concrete-lined channel and a culvert, and 0.021 acre of nonvegetated channel. The location of jurisdictional features identified during the delineation is provided in Figure 3-2. The remainder of the jurisdictional resources exclusively under the purview of CDFW is composed of a total of 0.123 acre of potential jurisdictional waters (i.e., tamarisk scrub) (Table 3-2; Figure 3-2).

Based on the results of the formal field delineation (including the evaluation of watershed and hydrological spatial data), it was determined that all aquatic features identified as potential jurisdictional "waters of the U.S." have the following features:

- possess physical and biological characteristics that may meet the definition of both wetland and nonwetland "waters of the U.S." (33 CFR 328.3), and

[2] The jurisdictional status will be based on an Approved (or Preliminary) Jurisdictional Determination.

- may possess an indirect hydrologic connection (or significant nexus) to a traditional navigable water.

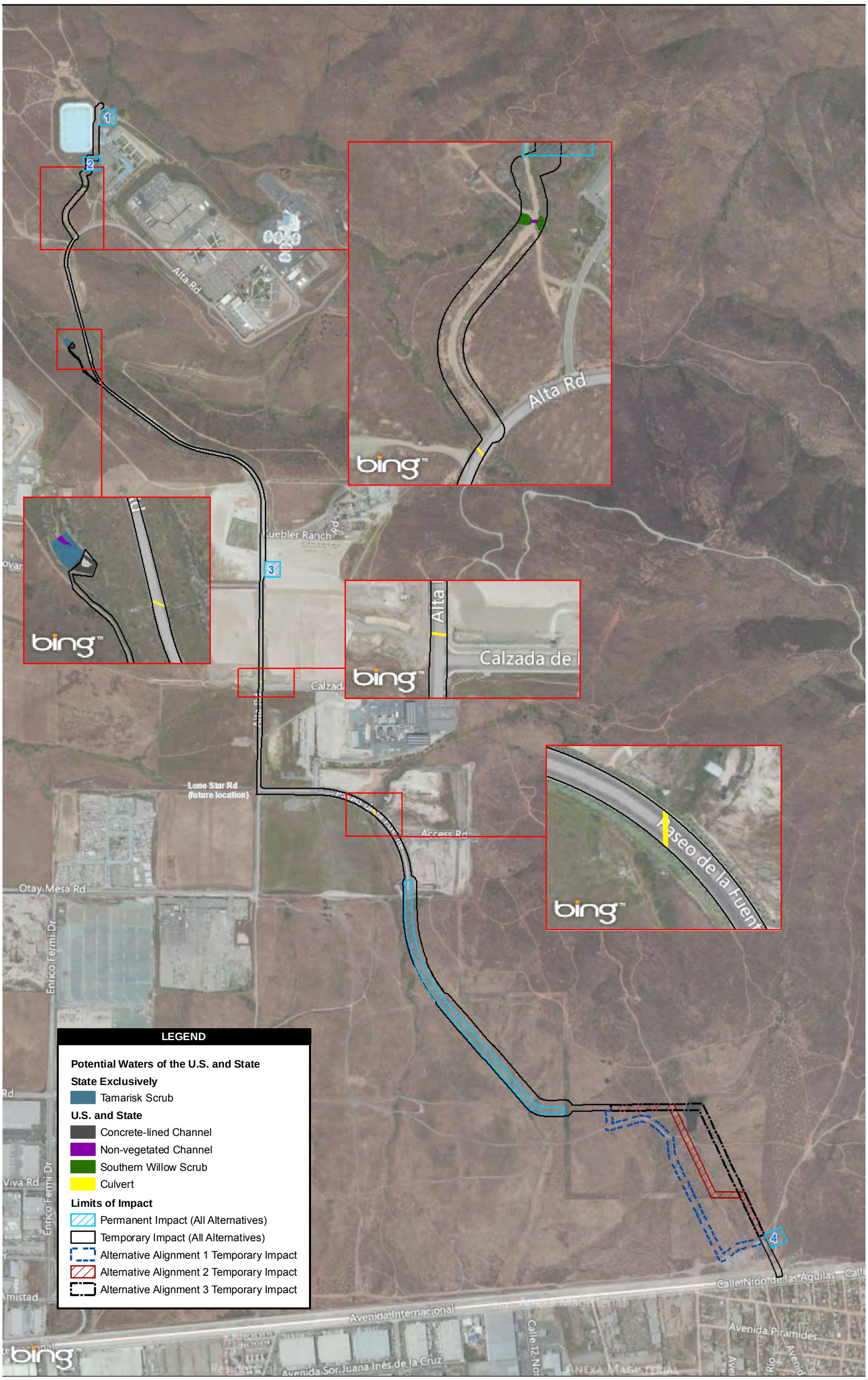
**Table 3-2**
**Potential Jurisdictional Waters of the U.S. and State Occurring within the Delineation Survey Area[1]**

| Type of Potential Jurisdictional Waters | Type of Habitat (Holland 1986; Oberbauer et al. 2008) | Type of Habitat (Cowardin et al. 1979) | Regulatory Authority | Area of Aquatic Resource in Survey Area (acres)[3] |
|---|---|---|---|---|
| **Jurisdictional Waters of the U.S. and State** | | | | |
| Wetland | Southern Willow Scrub (63320)[2] | Palustrine; Scrub/Shrub Broad-leaved, Deciduous, Seasonally Flooded, Fresh | CDFW, RWQCB, and USACE | 0.035 |
| Other Waters (Drainage Features [OHWM]) | Culvert, concrete-lined channel | N/A | CDFW, RWQCB, and USACE | 0.079 |
| Other Waters (Drainage Features [OHWM])/ Nonvegetated Channel | Nonvegetated Channel (64200) | Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh | CDFW, RWQCB, and USACE | 0.021 |
| *Subtotal Potential Jurisdictional Waters of the U.S. and State* | | | | *0.136* |
| **Jurisdictional Waters Exclusively CDFW** | | | | |
| Riparian | Tamarisk Scrub (63810)[2] | N/A | CDFW | 0.123 |
| *Subtotal Potential Jurisdictional Waters and State* | | | | *0.123* |
| ***Total Potential Jurisdictional Waters of the U.S. and State*** | | | | **0.259** |

[1] Based on the total area of potential waters of the U.S. (including wetlands) delineated within the survey area. Final acreages of waters of the U.S. will be based on the Jurisdictional Determination (JD) process per the March 30, 2007, U.S. Army Corps of Engineers Jurisdictional Determination Form Guidebook; the June 5, 2007, Approved JD Form; the June 5, 2007, Joint Guidance Memorandum; and RGL 08-02 and December 2, 2008, Guidance Memorandum.

[2] The vegetation mapping efforts described in Section 2.1 resulted in these vegetation communities and three additional types of hydrophytic vegetation communities (e.g., alkali seep, freshwater seep, and southern arroyo willow riparian forest). It should be noted that the methodology for mapping vegetation communities differs from the strict delineation protocols for determining a defined wetland. The presence and/or area of potential jurisdictional waters in the form of wetland (e.g., hydrophytic vegetation/hydric soils/wetland hydrology) differs from the mapped vegetation community based upon differing criteria in vegetation mapping and formal field delineations.

[3] Acreage of potential waters of the U.S. (including wetlands) occurring within the survey area were determined by using ArcGIS. All acreages are rounded to the nearest thousandth (which may account for minor rounding error).




Source: Image courtesy of USGS © 2015 Microsoft Corporation © 2015 Nokia © AND ; AECOM; ATKINS 2015

1,250 625 0 1,250 Feet

Scale: 1:15,000; 1 inch = 1,250 feet

**Figure 3-2**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\BTR\Submittal_2015\WatersImpacts.mxd, 2/5/2015, steinb*

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## 3.4 SPECIAL-STATUS PLANT SPECIES

This section discusses special-status plant species detected and those evaluated for their potential to occur within the 250-foot Study Area. A total of 174 plant species were observed within the 250-foot Study Area (Appendix B).

A total of 76 special-status plant species were evaluated for potential to occur in the 250-foot Study Area based on database searches, literature review, and Proposed Project surveys (Table 3-3). Portions of the 250-foot Study Area consisted of current or historic vernal pool complexes with the potential for occurrence of vernal pool and clay endemic rare plant species. The vernal pools and grassland habitats found within the 250-foot Study Area have had a high level of previous disturbance due to prior scraping, plowing, and/or dry farming activities and consequently the invasion of nonnative plant species. This disturbance may have eliminated previous rare plant populations associated with vernal pools and clay soils. Propagules from some of these rare plants may still lay dormant in the seed bank. Others may have been extirpated due to repeated disturbance. Nonnative plant species are most commonly found in the annual grasslands and disturbed habitat.

Of these 76 special-status plant species evaluated, 13 were detected during surveys. One federally listed and state-listed species, Otay tarplant, was detected just outside the 250-foot Study Area during surveys. Twelve other nonlisted plant species were detected within the 250-foot Study Area. A discussion of the special-status plant species detected during survey is included in the following sections. Those species evaluated, but not detected, are discussed in Table 3-3 and are not discussed further in this section.

### 3.4.1 Federally Listed Plant Species

One federally listed plant species, Otay tarplant, was detected during botanical surveys and is discussed below. Federally listed plant species not detected during surveys, but with potential to occur within the vicinity of the Proposed Project, are discussed in Table 3-3 and are not discussed further in the text.

## Table 3-3
## Special-status Plant Species Known or with Potential to Occur in the 250-foot Study Area

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| San Diego thorn-mint | *Acanthomintha ilicifolia* | FESA: Threatened<br>CESA: Endangered<br>CNPS: 1B.1 | Clay soils, openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 33 – 3,150 feet. Annual herb, blooms April–June. | Heavy clay with crumbly or deeply fissured soil, which noticeably compresses when treaded upon even during the dry season. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Marginally suitable habitat is present within the 250-foot Study Area but areas consisting of heavy clay soils have been invaded by many nonnative species. The San Diego Natural History Museum (SDNHM) has documented this species in both the southern coast and southern valley ecoregions where the 250-foot Study Area is located. The closest known documented occurrence of San Diego thorn-mint is approximately 3 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is within the elevation range of San Diego thorn-mint. |
| California adolphia | *Adolphia californica* | CNPS: 2.1 | Clay soils, chaparral, coastal scrub, and valley and foothill grassland. Elevation 148 – 2,428 feet. Perennial deciduous shrub, blooms December–May. | Peripheral chaparral habitat with Diegan sage scrub, particularly near hillsides and next to creeks. California adolphia is associated with California buckwheat and California sagebrush. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial deciduous shrub that would have been fairly easily detected if present. The closest known documented occurrence of California adolphia is within approximately 2 miles of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Shaw's agave | *Agave shawii* | CNPS: 2.1 | Coastal bluff scrub and coastal scrub.<br>Elevation 33 – 246 feet.<br>Perennial leaf succulent, blooms September–May. | Coastal Diegan sage scrub and maritime succulent scrub, volcanic soils, and diverse succulent scrub including golden snake cactus (*Bergerocactus emoryi*) and coast barrel cactus (*Ferocactus viridescens*). | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. This species was not detected during project surveys, and only marginally suitable habitat occurs within the 250-foot Study Area. The closest known location of Shaw's agave occurs approximately 10 miles west of the 250-foot Study Area at Borderfield State Park on coastal bluffs. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Shaw's agave. |
| San Diego bur-sage | *Ambrosia chenopodifolia* | CNPS: 2.1 | Coastal scrub.<br>Elevation 180 – 508 feet<br>Perennial shrub, blooms April–June. | Found in Diegan sage scrub that usually contains California sagebrush and black sage (*Salvia mellifera*). It has been mapped in Olivenhain cobbly loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. This species was not detected during surveys. The closest known location of San Diego bur-sage occurs approximately 3 miles northwest of the 250-foot Study Area. |
| singlewhorl burrobrush | *Ambrosia monogyra* | CNPS: 2.2 | Sandy soils.<br>Elevation 33-1,640 feet.<br>Perennial shrub, blooms August–November. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during surveys. It occurs in sandy soils, and the 250-foot Study Area has predominantly clay soils. The closest known location of singlewhorl burrobrush occurs within approximately 3 miles of the 250-foot Study Area. |
| San Diego ambrosia | *Ambrosia pumila* | FESA: Endangered<br>CNPS: 1B.1 | Sandy loam or clay, often in disturbed areas, sometimes alkaline chaparral, coastal scrub, valley and foothill grassland, and vernal pools. | Creek beds, seasonally dry drainages, floodplains, on the periphery of willow | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during surveys. The SDNHM shows this species being most abundant in the central |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | Elevation 66 – 1,362 feet. Perennial rhizomatous herb, blooms April–October. | woodland. Soils include sandy alluvium. | | valley ecoregion. San Diego ambrosia is found in floodplains, which are not part of the 250-foot Study Area. The closest known location of San Diego ambrosia occurs approximately 4 miles west of the 250-foot Study Area. |
| aphanisma | *Aphanisma blitoides* | CNPS:1B.2 | Sandy habitat, coastal bluff scrub, coastal dunes, and coastal scrub. Elevation 3 – 1,000 feet. Annual herb, blooms March–June. | On coastal bluffs next to the ocean and beach dunes. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. This species was not detected during project surveys. This plant is found on coastal bluffs next to the ocean and on beach dunes. The SDNHM has documented this species right next to the ocean in the southern coast, central coast, and north coast ecoregions. The closest known location of aphanisma occurs approximately 10 miles west of the 250-foot Study Area in a coastal location. |
| Otay manzanita | *Arctostaphylos otayensis* | CNPS:1B.2 | Metavolcanic, chaparral, cismontane woodland. Elevation 902 – 5,577 feet. Perennial evergreen shrub, blooms January–April. | Metavolcanic peaks with soils mapped as San Miguel-Exchequer rocky silt loam. Soils are quite shallow with much exposed rock flake. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been fairly easily detected if present. The closest known location of Otay Manzanita occurs approximately 3 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is just outside the elevation range for Otay manzanita. |
| San Diego sagewort | *Artemisia palmeri* | CNPS: 4.2 | Sandy, mesic soils, chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. Elevation 49 – 3,002 feet. | Commonly found along creeks and drainages near the coast. Found in rocky, sandy loams. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Soils in the 250-foot Study Area are |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | Perennial deciduous shrub, blooms February–September. | Grows commonly in shaded understory beneath willow, sycamore and cottonwood. | | predominantly clay; however, a few drainages with sandier substrate are present. The closest known location of San Diego sagewort occurs approximately 6 miles northwest of the 250-foot Study Area. |
| Dean's milk-vetch | *Astragalus deanei* | CNPS: 1B.1 | Chaparral, cismontane woodland, coastal scrub, riparian forest.<br>Elevation 246 – 2,280 feet.<br>Perennial herb, blooms February–May. | Sandy washes. Found in Cieneba-Fallbrook rocky sandy loam, which is the soil type for the Tecate population. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial herb that would have been fairly easily detected if present. The closest known location of Dean's milk vetch occurs within approximately 5 miles of the 250-foot Study Area. |
| Coulter's saltbush | *Atriplex coulteri* | CNPS:1B.2 | Alkaline or clay soils, coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland.<br>Elevation 10 – 1,509 feet.<br>Perennial herb, blooms March–October. | Sea bluff habitat is preferred. | Not Detected, Low Potential | Low to moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial herb that would have been relatively easy to detect if present. The SDNHM shows this plant in the south-central part of the southern coast ecoregion. This documentation is near the 250-foot Study Area. The closest known location of Coulter's saltbush occurs within approximately 3 miles of the 250-foot Study Area. |
| South Coast salt scale | *Atriplex pacifica* | CNPS:1B.2 | Coastal bluff scrub, coastal dunes, coastal scrub, and playas.<br>Elevation 0 – 459 feet.<br>Annual herb, blooms March–October. | Xeric, often mildly disturbed locales. Soils are mapped as Linne clay loam and found with California sagebrush. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. Although this species was not detected during project surveys, it is known to grow in disturbed locations. The SDNHM shows this plant in the south-central part of the southern coast ecoregion. This |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | documentation is near the 250-foot Study Area. The closest known location of South Coast salt scale occurs approximately 3 miles from the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is just on the edge of the elevation range for South Coast salt scale. |
| Encinitas baccharis | *Baccharis vanessae* | FESA: Threatened<br>CESA: Endangered<br>CNPS: 1B.1 | Sandstone, maritime chaparral, and cismontane woodland.<br>Elevation 197 – 2,362 feet.<br>Perennial deciduous shrub, blooms August–November. | Found in low-growing chaparral, Corralitos loamy sand, and Cieneba rocky coarse sandy loam. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The 250-foot Study Area did not consist of any low-growing chaparral, cismontane woodland, sandstone, or maritime chaparral. The closest known location of Encinitas baccharis occurs approximately 4 miles east of the 250-foot Study Area. |
| San Diego sunflower | *Bahiopsis laciniata* | CNPS: 4.2 | Chaparral and coastal scrub.<br>Elevation 197 – 2,460 feet.<br>Perennial shrub, blooms February-August. | Arid, open canopy coastal sage scrub. | Present | Present within the 250-foot Study Area. Approximately 1,925 plants of this species were detected within coastal sage scrub in the northern and southeastern segments of the 250-foot Study Area during project surveys. |
| golden-spined cereus | *Bergerocactus emoryi* | CNPS: 2.2 | Sandy, closed-cone coniferous forest, chaparral, and coastal scrub.<br>Elevation 10 – 1,296 feet.<br>Perennial stem succulent, blooms May–June. | Found in maritime succulent scrub with cliff spurge (*Euphorbia misera*) and Shaw's agave. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial succulent that would have been easily identified if present. The closest known location of golden-spined cereus occurs approximately 3 miles west of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| San Diego goldenstar | *Bloomeria clevelandii* | CNPS: 1B.1 | Clay, chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 164 – 1,526 feet. Perennial bulbiferous herb, blooms April–May. | Undocumented | Present | Present. The species was detected during project surveys throughout the northern segment of the 250-foot Study Area and in a cluster within coastal sage scrub openings in the southeastern segment of the 250-foot Study Area. Approximately 554 plants were detected during botanical surveys. |
| Orcutt's brodiaea | *Brodiaea orcuttii* | CNPS: 1B.1 | Mesic, clay, sometimes serpentinite, closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 98 – 5,551 feet. Perennial bulbiferous herb, blooms April–May. | Mima mound topography, vernally moist grasslands, periphery of vernal pools. Soils consist of stockpen gravelly loam and Redding gravelly loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools have been invaded by many nonnative species. It may be hard for Orcutt's brodiaea to compete. The closest known location of Orcutt's brodiaea occurs within approximately 2 miles of the 250-foot Study Area. |
| round-leaved filaree | *California macrophylla* | CNPS: 1B.1 | Clay, cismontane woodland, and valley and foothill grassland. Elevation 49 – 3,937 feet. Annual herb, blooms March–May. | Undocumented | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The SDNHM has round-leaved filaree in the central foothills ecoregion. The closest known location of round-leaved filaree occurs approximately 3 miles from the 250-foot Study Area. |
| Dunn's mariposa-lily | *Calochortus dunnii* | CESA: Rare<br>CNPS: 1B.2 | Gabbroic, metavolcanic, rocky, closed-cone coniferous forest, chaparral, and valley and foothill grassland. Elevation 607 – 6,004 feet. Perennial bulbiferous herb, blooms February–June. | Rocky openings in chaparral, restricted to metavolcanic and gabbroic derived soils. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys and Dunn's mariposa-lily is restricted to gabbroic and metavolcanic soils, which were not found within the 250-foot Study Area. The closest known |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | location of Dunn's mariposa-lily occurs approximately 2 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is at the low end of the elevation range for Dunn's mariposa lily. |
| Lakeside ceanothus | *Ceanothus cyaneus* | CNPS: 1B.2 | Closed-cone coniferous forest, and chaparral. Elevation 771 – 2,477 feet. Perennial evergreen shrub, blooms April–June. | Specifically known in the Lakeside foothills, found in dense almost impenetrable chaparral with a mix of chamise (*Adenos-toma fasciculatum*). Soils consist of acid igneous rock and Cieneba very rocky coarse sandy loam. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is just outside the elevation range for this species. The SDNHM has lakeside ceanothus documented in the central foothills ecoregion. The closest known location of Lakeside ceanothus occurs approximately 2 miles east of the 250-foot Study Area. |
| Otay Mountain ceanothus | *Ceanothus otayensis* | CNPS:1B.2 | Chaparral and metavolcanic or gabbroic soils. Elevation 1,969 – 3,609 feet. Perennial evergreen shrub, blooms January–April. | Most likely restricted to metavolcanic and gabbroic peaks in xeric chamise chaparral. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Otay Mountain ceanothus. The closest known location of Otay Mountain ceanothus occurs approximately 4 miles east of the 250-foot Study Area. |
| wart-stemmed ceanothus | *Ceanothus verrucosus* | CNPS: 2.2 | Chaparral. Elevation 3 – 1,247 feet. Perennial evergreen shrub, blooms December–May. | Coastal chaparral intermixed with chamise. Soils consist of exchequer rocky silt loams and San Miguel- | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been easily identified if present. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | Exchequer rocky silt loams. | | This species is found in association with chaparral, which is only present in two small areas of the 250-foot Study Area. The closest known location of wart-stemmed ceanothus occurs approximately 8 miles west of the 250-foot Study Area. |
| Orcutt's pincushion | *Chaenactis glabriuscula* var. *orcuttiana* | CNPS: 1B.1 | Sandy coastal bluff scrub, and coastal dunes. Elevation 0 – 328 feet. Annual herb, blooms January–August. | Undocumented | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The SDNHM has the plant documented on the coast line from the north coast, and central coast to southern coast ecoregion. The closest known location of Orcutt's pincushion occurs approximately 10 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Orcutt's pincushion. |
| salt marsh bird's-beak | *Chloropyron maritimum* ssp. *maritimum* | FESA: Endangered<br>CESA: Endangered<br>CNPS: 1B.2 | Coastal dunes. Elevation 0 – 98 feet. Annual herb, blooms May–October. | Undocumented | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of salt marsh bird's-beak occurs approximately 8 miles away west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of salt marsh bird's-beak. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| long-spined spineflower | *Chorizanthe polygonoides* var. *longispina* | CNPS: 1B.2 | Clay, chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 98 – 5020 feet. Annual herb, blooms April–July. | Found on clay lenses that are devoid of shrubs and occasionally found on the periphery of vernal pool habitat. Long-spined spineflower can also be found near the periphery of montane meadows near vernal seeps. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools have been invaded by many nonnative species. It may be hard for long-spined spineflower to compete. The closest known location of long-spined spineflower occurs approximately 6 miles from the 250-foot Study Area. |
| delicate clarkia | *Clarkia delicata* | CNPS: 1B.2 | Gabbroic soils, chaparral, and cismontane woodland. Elevation 771 – 3280 feet. Annual herb, blooms April–June. | Found on the periphery of oak woodlands and cismontane chaparral. It is found in vernally mesic situations. Soils include banacas stony loam. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of delicate clarkia occurs approximately 8 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of delicate clarkia. |
| summer holly | *Comarostaphylis diversifolia* ssp. *diversifolia* | CNPS: 1B.2 | Chaparral and cismontane woodland. Elevation 98 – 2592 feet. Perennial evergreen shrub, blooms April–June. | Undocumented | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been fairly easily identified if present. The SDNHM has summer holly mapped outside the southern coast and southern valley ecoregions where the 250-foot Study Area is located. The closest known location of summer holly occurs approximately 3 miles east of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| small-flowered morning glory | *Convolvulus simulans* | CNPS: 4.2 | Clay, serpentine seeps, chaparral (openings), coastal scrub, and valley and foothill grassland. Elevation 98 – 2,297 feet. Annual herb, blooms March–June. | Friable clay soils devoid of shrubs in openings in chaparral, sage scrub, and grasslands. | Present | Present within the 250-foot Study Area. This species was detected in a clay lens in small numbers in the southeastern segment of the 250-foot Study Area during project surveys. Approximately 60 plants were detected during surveys. |
| San Diego sand aster | *Corethrogyne filaginifolia* var. *incana* | CNPS: 1B.1 | Coastal bluff scrub, chaparral, and coastal scrub. Elevation 10 – 377 feet. Perennial herb, blooms June–September. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of San Diego sand aster occurs approximately 9 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range for San Diego sand aster. |
| Otay tarplant | *Deinandra conjugens* | FESA: Threatened<br>CESA: Endangered<br>CNPS: 1B.1 | Clay, coastal scrub, and valley and foothill grassland.<br>Elevation 82 – 984 feet.<br>Annual herb, blooms May–June. | Undocumented | Present | Present. The species was detected in clay soils at a former restoration site just outside the 250-foot Study Area during project surveys. Less than 10 plants were detected. |
| Orcutt's bird's-beak | *Dicranostegia orcuttiana* | CNPS: 2.1 | Coastal scrub.<br>Elevation 33 – 1,148 feet.<br>Annual herb hemiparasitic, blooms March–September. | Undocumented | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Orcutt's bird's-beak occurs approximately 1 mile from the 250-foot Study Area. |
| Orcutt's dudleya | *Dudleya attenuata* ssp. *Orcuttii* | CNPS: 2.1 | Rocky or gravelly habitat, coastal bluff scrub, chaparral, and coastal scrub. Elevation 10 – 164 feet. Perennial herb, blooms May–July. | Openings in Diegan sage scrub near the coast are preferred. Soils include marina loamy coarse sand close to Border Field State Park. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Orcutt's dudleya occurs approximately 10 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | which is outside the elevation range for Orcutt's dudleya. |
| Blochman's dudleya | *Dudleya blochmaniae* ssp. *blochmaniae* | CNPS: 1B.1 | Rocky, often clay or serpentinite habitat. Coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland. Elevation 16 – 1,476 feet. Perennial herb, blooms April–June. | Sandy opening in Diegan scrub near the coast. Soils include Las Flores loamy fine sand and terrace escarpments. Coastal influence is a requirement. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. This species needs a coastal influence. The closest known location of Blochman's dudleya occurs approximately 10 miles west of the 250-foot Study Area. |
| variegated dudleya | *Dudleya variegata* | CNPS: 1B.2 | Clay habitat, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 10 – 1,903 feet. Perennial herb, blooms April–June. | Openings in sage scrub, chaparral, open grasslands, and isolated rocky substrates, and found near vernal pools. Soils include stockpen gravelly loams and Redding gravelly loams. | Present | Present within the 250-foot Study Area. This species was detected in small numbers in clay soils within coastal sage scrub in the northern segment of the 250-foot Study Area during project surveys. Approximately 200 plants were detected during surveys. |
| Palmer's goldenbush | *Ericameria palmeri* var. *palmeri* | CNPS: 1B.1 | Mesic habitat, chaparral, and coastal scrub. Elevation 98 – 1,969 feet. Perennial evergreen shrub, blooms July–November. | Coastal drainages, mesic chaparral, occasionally occurs as a hillside element. Soils include Las Posas fine sandy loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been fairly easily detected during field surveys if present. The closest known location of Palmer's goldenbush occurs approximately 5 miles from the 250-foot Study Area. |
| San Diego button-celery | *Eryngium aristulatum* var. *parishii* | FESA: Endangered<br>CESA: Endangered<br>CNPS: 1B.1 | Mesic habitat, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 66 – 2,034 feet. Annual and perennial herb, blooms April–June. | Areas with vernal pools, mima mounds, and vernally moist conditions. Soils include Redding gravelly loams. | Not Detected, Moderate Potential | Low to moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools and heavy clay soils have been heavily |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | invaded by nonnative species. It may be hard for San Diego button-celery to compete. San Diego button-celery may have been present before nonnative weed invasion occurred and it may still exist in the seed bank. The closest known location of San Diego button-celery occurs less than a mile from the 250-foot Study Area. |
| cliff spurge | *Euphorbia misera* | CNPS: 2.2 | Rocky habitat, coastal bluff scrub, coastal scrub, and Mojavean desert scrub. Elevation 33 – 1,640 feet. Perennial shrub, blooms December–August. | Low-growing, maritime succulent scrub with a high incidence of cactus. Soils include Olivenhain cobbly loams. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during surveys. Cliff spurge is a perennial shrub that would have been easily detectable during field surveys if present. Rocky coastal bluff scrub habitats are not present in the 250-foot Study Area. Low-growing maritime succulent scrub is the common community where this species is found. The closest known location of cliff spurge occurs approximately 2 miles west of the 250-foot Study Area. |
| coast barrel cactus | *Ferocactus viridescens* | CNPS: 2.1 | Chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 10 – 1,476 feet. Perennial stem succulent, blooms May–June. | Diegan sage scrub hillsides, often at the crest of slopes and growing in cobbles, occasionally found on the periphery of vernal pools and mima mounds. Soil types include San Miguel-Exchequer rocky silt loams and Redding gravelly loams. | Present | Present within the 250-foot Study Area. This species was detected on slopes and ridges of coastal sage scrub during surveys in both the northern and southeastern segments of the 250-foot Study Area. A total of approximately 688 plants were detected during surveys. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Palmer's frankenia | *Frankenia palmeri* | CNPS: 2.1 | Coastal dunes, marshes and swamps (coastal salt), and playas.<br>Elevation 0 – 33 feet.<br>Perennial herb, blooms May–July. | Salt marsh habitat and the periphery of salt marsh habitat. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. This species was not detected during surveys. Palmer's frankenia is found in salt marsh habitat. Salt marsh scrub does not occur in the 250-foot Study Area. The closest known location of Palmer's frankenia occurs approximately 10 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Palmer's frankenia. |
| chaparral ash | *Fraxinus parryi* | CNPS: 2.2 | Coastal dunes, marshes and swamps (coastal salt), and playas.<br>Elevation 0 – 33 feet.<br>Perennial herb, blooms May–July. | Undocumented | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during surveys. The closest known location of chaparral ash occurs 12 miles from the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of chaparral ash. |
| Mexican flannelbush | *Fremontodendron mexicanum* | FESA: Endangered<br>CESA: Rare<br>CNPS: 1B.1 | Gabbroic, metavolcanic, or serpentinite habitat; closed-cone coniferous forest; chaparral; and cismontane woodland.<br>Elevation 33 – 2,349 feet.<br>Perennial evergreen shrub, blooms March–June. | Closed-cone coniferous forest and southern mixed chaparral. Soil types include San Miguel-Exchequer rocky silt loams. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been relatively easily identified if present. The closest known location of Mexican flannelbush occurs approximately 3 miles east of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| desert bedstraw | *Galium proliferum* | CNPS: 2.2 | Rocky, carbonate (limestone) habitat, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Elevation 3,904 – 5,348 feet. Annual herb, blooms March–June. | Undocumented | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of desert bedstraw occurs approximately 7 miles north of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of desert bedstraw. |
| Palmer's grapplinghook | *Harpagonella palmeri* | CNPS: 4.2 | Clay habitat, chaparral, coastal scrub, and valley and foothill grassland. Elevation 66 – 3,133 feet. Annual herb, blooms March–May. | Clay vertisols with open grassy slopes and open Diegan sage scrub. Diablo clays are favored on the coast. | Present | Present within the 250-foot Study Area. The species was detected during project surveys in clay soils in coastal sage scrub habitat in the southeastern and the northern segments of the 250-foot Study Area. A total of approximately 254 plants were detected during surveys. |
| Tecate cypress | *Hesperocyparis forbesii* | CNPS: 1B.1 | Clay, gabbroic, metavolcanic habitat; closed-cone coniferous forest; and chaparral. Elevation 262 – 4,921 feet. Perennial evergreen tree. | Closed-cone coniferous forest and southern mixed chaparral. Soil types include San Miguel-Exchequer soils. | Present | Present within the 250-foot Study Area. The species was detected in O'Neal Canyon on the manufactured slope during project surveys. A total of 10 individuals were detected during surveys. |
| beach goldenaster | *Heterotheca sessiliflora* ssp. *sessiliflora* | CNPS: 1B.1 | Chaparral (coastal), coastal dunes, and coastal scrub. Elevation 0 – 4,019 feet. Perennial herb, blooms March–December. | Coastal sage scrub in sandy locales. Found on beach bluffs and maritime locales. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during project surveys. This plant is found in coastal sage scrub next to the beach bluffs and maritime locales. The closest known location of beach goldenaster occurs approximately 5 miles west of the 250-foot Study Area. |
| Ramona horkelia | *Horkelia truncata* | CNPS: 1B.3 | Clay and gabbroic habitat. Elevation 1,312 – 4,265 feet. Perennial herb, blooms May–June. | Chamise chaparral. Soil types include Cieneba very rocky coarse sandy loams and gabbro. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Ramona |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | horkelia occurs approximately 15 miles north of the 250-foot Study Area. |
| Otay Mountain lotus | *Hosackia crassifolia* var. *otayensis* | CNPS: 1B.1 | Chaparral (metavolcanic, often in disturbed areas). Elevation 1,247 – 3,297 feet. Perennial herb, blooms May–August. | Undocumented | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Otay Mountain lotus occurs approximately 5 miles east of the 250-foot Study Area. |
| decumbent goldenbush | *Isocoma menziesii* var. *decumbens* | CNPS: 1B.2 | Chaparral and coastal scrub (sandy, often open in disturbed areas). Elevation 33 – 443 feet. Perennial shrub, blooms April–November. | Coastal sage scrub and is found in clay soils. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of decumbent goldenbush occurs approximately 5 miles east of the 250-foot Study Area. |
| San Diego marsh-elder | *Iva hayesiana* | CNPS: 2.2 | Marshes, swamps, and playas. Elevation 33 – 1,640 feet. Perennial herb, blooms April–October. | Creeks and intermittent streambeds, open riparian canopy allowing substantial sunlight. | Present | Present within the 250-foot Study Area. The species was detected in drainages within alkali marsh habitat in the southeastern segment of the 250-foot Study Area during project surveys. A total of approximately 125 plants were detected during surveys. |
| spiny rush | *Juncus acutus* ssp. *leopoldii* | CNPS: 4.2 | Coastal dunes (mesic) meadows and seeps (alkaline seeps), marshes and swamps (coastal salt); Elevation 3 – 4,003 feet. Perennial rhizomatous herb, blooms March-June. | Coastal salt marsh at brackish locales, alkaline meadows, and riparian marshes. | Present | Present within the 250-foot Study Area. The species was detected in drainages within alkali marsh habitat in the northern and southeastern segments of the 250-foot Study Area during project surveys. A total of eight clumps of plants were detected during surveys. |
| Coulter's goldfields | *Lasthenia glabrata* ssp. *coulteri* | CNPS: 1B.1 | Marshes, swamps (coastal salt), playas, and vernal pools. Elevation 3 – 4,003 feet. | Tidal marsh areas near the coast at the extreme upper end of tidal inundation | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys; Coulter's |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | Annual herb, blooms February–June. | and periphery of vernal pools. | | goldfields are located in coastal zones 10 miles west of the 250-foot Study Area. Coulter's goldfields prefer salty soils. |
| Gander's pitcher sage | *Lepechinia ganderi* | CNPS: 1B.3 | Gabbroic or metavolcanic habitat.<br>Elevation 1,000 – 3,297 feet.<br>Perennial shrub, blooms June–July. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys; Gander's pitcher sage is restricted to gabbroic and metavolcanic soils. The closest known location of Gander's pitcher sage occurs approximately 2 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Gander's pitcher sage. |
| Robinson's pepper-grass | *Lepidium virginicum* var. *robinsonii* | CNPS: 1B.2 | Chaparral and coastal scrub.<br>Elevation 3 – 2,904 feet.<br>Annual herb, blooms January–July. | Openings in chaparral and sage scrub, usually found in foothill elevations. Sites are dry, exposed locales. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Robinson's pepper-grass occurs approximately 2 miles east of the 250-foot Study Area. |
| sea dahlia | *Leptosyne maritima* | CNPS: 2.2 | Coastal bluff scrub and coastal scrub.<br>Elevation 16 – 492 feet.<br>Perennial herb, blooms March–May. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. According to the SDNHM, sea dahlia occurs along the coastline in the north coast, central coast, and southern coast ecoregions. The closest known location of sea dahlia occurs approximately 9 miles west of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Nuttall's lotus | *Lotus nuttallianus* | CNPS: 1B.1 | Coastal dunes. Elevation 0 – 33 feet. Annual herb, blooms March–July. | Costal dunes and well-protected back dunes with minimal foot traffic. Soils include beach sand. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Nuttall's lotus is found in coastal dunes and well-protected back dunes with minimal foot traffic. These habitats were not found within the 250-foot Study Area. Nuttall's lotus prefers beach sand habitat. The closest known location of Nuttall's lotus occurs approximately 8 miles northwest of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Nuttall's lotus. |
| small-flowered microseris | *Microseris douglasii* ssp. *platycarpha* | CNPS: 4.2 | Clay soils, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 49 – 3,510 feet, annual herb, blooms March-May. | Clay lenses in perennial grasslands and on the periphery of vernal pools, or in broad openings in sage scrub. | Present | Present within the 250-foot Study Area. This species was detected in clay soils within native grasslands and broad openings of coastal sage scrub during project surveys. Large numbers (over 130,000 plants) were found in the northern and southeastern segments of the 250-foot Study Area. |
| felt-leaved monardella | *Monardella hypoleuca* ssp. *lanata* | CNPS: 1B.2 | Chaparral and cismontane woodland. Elevation 984 – 5,167 feet. Perennial rhizomatous herb, blooms June–August. | Chaparral understory usually under stands of chamise in xeric situations. Soils include San Miguel-Exchequer rocky silt loams often near Otay Mountain. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Felt-leaved monardella is found at higher elevations. The closest known location of felt-leaved monardella occurs approximately 5 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of felt-leaved monardella. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Jennifer's monardella | *Monardella stoneana* | CNPS: 1B.2 | Usually rocky intermittent streambeds. Closed-cone coniferous forest, chaparral, coastal scrub, and riparian scrub.<br>Elevation 33 – 2,592 feet.<br>Perennial herb, blooms June–September. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys and Jennifer's monardella is a perennial herb that would have been detected if present. According to the SDNHM, Jennifer's monardella occurs in the southern foothills ecoregion, which is located outside of the 250-foot Study Area. Jennifer's monardella occurs 5 miles east of the 250-foot Study Area. |
| little mousetail | *Myosurus minimus* ssp. *apus* | CNPS: 3.1 | Valley and foothill grassland and alkaline vernal pools.<br>Elevation 66 – 2,100 feet.<br>Annual herb, blooms March–June. | Vernal pools. Soils include Huerhuero loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys; suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools and heavy clay soils have been invaded by many nonnative species. It may be hard for little mousetail to compete. Little mousetail may have been present before nonnative weed invasion occurred and it may still exist in the seed bank. The SDNHM has documented this species in the southern coast ecoregion where the 250-foot Study Area is located. The closest known documented occurrence of little mousetail is less than 1 mile from the 250-foot Study Area. |
| mud nama | *Nama stenocarpum* | CNPS: 2.2 | Marshes and swamps (lake margins, riverbanks).<br>Elevation 16 – 1,640 feet.<br>Annual or perennial herb, blooms January–July. | This herb grows on muddy embankments of ponds and lakes. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during surveys. The closest known location occurs approximately 2 miles from the 250-foot Study Area. According to |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | the SDNHM, mud nama is found in the northernmost portion of the southern coast and southern valley ecoregions. |
| spreading navarretia | *Navarretia fossalis* | FESA: Threatened<br>CNPS: 1B.1 | Chenopod scrub, marshes and swamps, playas, and vernal pools.<br>Elevation 98 – 2,149 feet.<br>Annual herb, blooms April–June. | Vernal pools and vernal pool swales. Soils include Huerhuero loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools and heavy clay soils have been invaded by many nonnative species. It may be hard for spreading navarretia to compete. Spreading navarretia may have been present before nonnative weed invasion occurred and it may still exist in the seed bank. The closest known location of spreading navarretia occurs within 1 mile of the 250-foot Study Area. |
| prostrate vernal pool navarretia | *Navarretia prostrata* | CNPS: 1B.1 | Mesic habitat, coastal scrub, meadows, seeps, valley and foothill grassland (alkaline), and vernal pools.<br>Elevation 49 – 3970 feet.<br>Annual herb, blooms April–July. | Undocumented | Not Detected, Moderate Potential | Low to moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Suitable habitat is present but prostrate vernal pool navarretia is more likely to be found closer to the coast. According to the SDNHM website, prostrate vernal pool navarretia is found in the central coast ecoregion. The closest known location of prostrate vernal pool navarretia occurs approximately 10 miles northwest of the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| coast woolly-heads | *Nemacaulis denudata* var. *denudata* | CNPS: 1B.2 | Coastal dunes habitat. Elevation 0 – 328 feet. Annual herb, blooms April–September. | Coastal sand dunes along beaches. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location occurs approximately 10 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of coast woolly heads. |
| slender cottonheads | *Nemacaulis denudata* var. *gracilis* | CNPS: 2.2 | Coastal dunes, desert dunes, and Sonoran desert scrub. Elevation 164 – 1,312 feet. Annual herb, blooms March–May. | Well-developed dune habitat in the desert or rarely along coastal beaches. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. According to the SDNHM, slender cottonheads occur in the north coast ecoregion. The 250-foot Study Area includes the southern valley and southern coast ecoregions. The closest known location of slender cottonheads occurs approximately 6 miles west of the 250-foot Study Area. |
| Dehesa nolina | *Nolina interrata* | CESA: Endangered<br>CNPS: 1B.1 | Chaparral (gabbroic, metavolcanic, or serpentinite habitat). Elevation 607 – 2,805 feet. Perennial herb, blooms June–July. | Open southern mixed chaparral and chamise chaparral. Soils include Las Posas stony fine sandy loams. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Dehesa nolina is usually found in Las Posas soils, which were not found within the 250-foot Study Area. According to the SDNHM, dehesa nolina is only found in the southern foothills ecoregion. The 250-foot Study Area includes the southern coast and southern valley ecoregions. The closest known location of Dehesa nolina occurs approximately 10 miles northeast of the 250-foot Study Area. The |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | elevation range in the 250-foot Study Area is 492 – 722 feet, which is at the low end of the elevation range of Dehesa nolina. |
| snake cholla | *Opuntia californica* var. *californica* | CNPS: 1B.1 | Chaparral and coastal scrub. Elevation 98 – 492 feet. Perennial stem succulent, blooms April–May. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial stem succulent that would have been easily identified if present. The majority of the habitat within the 250-foot Study Area consisted of vernal pools, mulefat scrub, freshwater seep, and annual grassland. These vegetation communities are not commonly associated with this species, which is found in coastal scrub and chaparral. The closest known location of snake cholla occurs approximately 5 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range for snake cholla. |
| California Orcutt grass | *Orcuttia californica* | FESA: Endangered<br>CESA: Endangered<br>CNPS: 1B.1 | Vernal pools.<br>Elevation 49 – 2,165 feet.<br>Annual herb, blooms April–August. | Vernal pools are the preferred habitat of this prostrate grass. Soils include gravelly clay loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys; suitable habitat is present within the 250-foot Study Area but areas consisting of vernal pools and heavy clay soils have been invaded by many nonnative species. It may be hard for California Orcutt grass to compete. California Orcutt grass may have present before nonnative weed invasion occurred and it may still exist in the seed |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | bank. The SDNHM has documented this species in the southern coast ecoregion where the 250-foot Study Area is located. The closest known documented occurrence is within 1 mile of the 250-foot Study Area. |
| Baja California birdbush | *Ornithostaphylos oppositifolia* | CESA: Endangered<br>CNPS: 2.1 | Chaparral.<br>Elevation 180 – 2,625 feet.<br>Perennial evergreen shrub, blooms January–April. | Coastal chaparral with dense cover. Soils include Olivenhain cobbly loam. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been easily identified if present. The closest known location of Baja California birdbush occurs approximately 7 miles west of the 250-foot Study Area. According to the SDNHM, it is southwest of the 250-foot Study Area in the southern coast ecoregion. |
| Brand's star phacelia | *Phacelia stellaris* | FESA: Candidate<br>CNPS: 1B.1 | Coastal dunes and coastal scrub.<br>Elevation 3 – 1,312 feet.<br>Annual herb, blooms March–June. | Sandy openings in Diegan sage scrub near the coast. Soils include Marina loamy coarse sand. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. According to the SDNHM website, Brand's star phacelia occurs only along the coast line. The closest known location of Brand's star phacelia occurs approximately 10 miles west of the 250-foot Study Area. |
| Otay mesa mint | *Pogogyne nudiuscula* | FESA: Endangered<br>CESA: Endangered<br>CNPS: 1B.1 | Vernal pools.<br>Elevation 295 – 820 feet.<br>Annual herb, blooms May–July. | Vernal pools with stockpen gravelly clay loam soils. Most populations are in open grassland with mima mound topography. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys, but claypan vernal pools (i.e., with heavy weed invasion) are present in the 250-foot Study Area. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Cedros Island oak | *Quercus cedrosensis* | CNPS: 2.2 | Closed-cone coniferous forest, chaparral, and coastal scrub.<br>Elevation 837 – 3,150 feet.<br>Perennial evergreen tree, blooms April–May. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial evergreen shrub that would have been easily identified if present. According to the SDNHM, Cedros Island oak occurs in the central valley and southern foothills ecoregions. The closest known location of Cedros Island oak occurs approximately 3 miles east of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range for Cedros Island oak. |
| Nuttall's scrub oak | *Quercus dumosa* | CNPS: 1B.1 | Sandy and clay loam habitat.<br>Elevation 49 – 1,312 feet.<br>Perennial evergreen shrub, blooms February–August. | Coastal chaparral with a relatively open canopy cover and relatively flat terrain. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Nuttall's scrub oak is a perennial evergreen shrub that resides in coastal chaparral. The closest known location of Nuttall's scrub oak occurs approximately 3 miles west of the 250-foot Study Area. |
| Moreno currant | *Ribes canthariforme* | CNPS: 1B.3 | Chaparral and riparian scrub.<br>Elevation 1,115 – 3,937 feet.<br>Perennial deciduous shrub, blooms February–April. | Chaparral in areas of acid igneous rock land, typically with massive, exposed boulders. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys and Moreno currant is found in acid igneous rock land with massive exposed boulders. This type of habitat was not found within the 250-foot Study Area. The closest known location of Moreno currant occurs approximately 15 miles northeast of the 250-foot Study Area. The elevation range in the 250-foot |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | Study Area is 492 – 722 feet, which is outside the elevation range of Moreno currant. |
| Santa Catalina Island currant | *Ribes viburnifolium* | CNPS: 1B.2 | Chaparral and cismontane woodland.<br>Elevation 98 – 1,000 feet.<br>Perennial evergreen shrub, blooms February–April. | Sage scrub or low-growing chaparral exposed to ocean breezes and fogs. Habitat includes canyons and arroyos, usually partial shade near the coast and steep slopes. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Santa Catalina Island currant occurs approximately 9 miles west of the 250-foot Study Area. |
| small-leaved rose | *Rosa minutifolia* | CESA: Endangered<br>CNPS: 2.1 | Chaparral and coastal scrub.<br>Elevation 492 – 525 feet.<br>Perennial deciduous shrub, blooms January–June. | North-facing Diegan sage scrub. Soils include Olivenhain cobbly loam soils. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. It is a perennial deciduous shrub that would have been easily identified if present. The majority of the habitat within the 250-foot Study Area consisted of vernal pools, mulefat scrub, freshwater seep, and annual grassland. These vegetation communities are not commonly found to occur with this species. The closest known location of small-leaved rose occurs approximately 3 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is on the edge of the elevation range for small-leaved rose. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Munz's sage | *Salvia munzii* | CNPS: 2.2 | Chaparral and coastal scrub. Elevation 378 – 3,494 feet. Perennial evergreen shrub, blooms February–April. | Chaparral and Diegan sage scrub. Soils include San Miguel-Exchequer rocky silt loams and Olivenhain cobbly loams. | Present | Present within the 250-foot Study Area. The species was detected in small numbers in coastal sage scrub in the northern segment of the 250-foot Study Area during project surveys. A total of 95 shrubs of this species were detected during surveys. |
| San Miguel savory | *Satureja chandleri* | CNPS: 1B.2 | Chaparral. | Chaparral and oak woodland and may be restricted to metavolcanic-derived soils. Soils on McGinty peak include Las Posas stony fine sandy loam. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. San Miguel savory is found at higher elevations than those found within the 250-foot Study Area. The closest known location of San Miguel savory occurs approximately 5 miles east of the 250-foot Study Area. |
| chaparral ragwort | *Senecio aphanactis* | CNPS: 2.2 | Sometimes alkaline habitat, chaparral, cismontane woodland, and coastal scrub. Elevation 49 – 2,625 feet. Annual herb, blooms January–April. | Coastal sage scrub on cismontane woodlands and alkaline flats. | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. This species was not detected during surveys. The closest known location of chaparral ragwort occurs approximately 9 miles west of the 250-foot Study Area. |
| purple stemodia | *Stemodia durantifolia* | CNPS: 2.1 | Sonoran desert scrub. Elevation 591 – 984 feet. Perennial herb, blooms January–December. | Undocumented | Not Detected, Low Potential | Low potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Purple stemodia is usually found in desert scrub, which was not found within the 250-foot Study Area. The closest known location of purple stemodia occurs approximately 4 miles from the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of purple stemodia. |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| Laguna Mountains jewel-flower | *Streptanthus bernardinus* | CNPS: 4.3 | Chaparral and lower montane coniferous forest. Elevation 2,198 – 8,202 feet. Perennial herb, blooms May–August. | Lower montane coniferous forest, partial shade, or near Boomer stony loams. All have been found with conifers. It is commonly found in mesic situations but can occupy drier embankments in granitic gravels and sand. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Laguna Mountains jewel-flower is usually found in montane coniferous forests, which were not found within the 250-foot Study Area. The closest known location of Laguna Mountains jewel-flower occurs approximately 4 miles from the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Laguna Mountains jewel-flower. |
| San Diego County needle grass | *Stipa diegoensis* | CNPS: 4.2 | Rocky, often mesic, chaparral, and coastal scrub. Elevation 33 – 2,625 feet | Often in rocky soil on steeper slopes in coastal sage scrub or chaparral. | Present | Present within the 250-foot Study Area. The species was detected in small numbers in coastal sage scrub in the northern segment of the 250-foot Study Area during project surveys. A total of 304 plants were detected during surveys. |
| estuary seablite | *Suaeda esteroa* | CNPS: 1B.2 | Marshes and swamps (coastal salt). Elevation 0 – 16 feet. Perennial herb, blooms May–January. | Periphery of coastal salt marshes with pickleweed species. Soils are mapped as tidal flats. | Not Detected, Low Potential | Low to no potential to occur within the 250-foot Study Area. The species was not detected during project surveys. Estuary seablite is usually found in tidal zones and mud flats, which were not found within the 250-foot Study Area. The 250-foot Study Area consists of the Huerhuero soil series. The closest known location of estuary seablite occurs approximately 8 miles west of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, |

| Common Name | Scientific Name | Status[1] | General Habitat Description[2] | Microhabitat Description | Findings | Rationale[3] |
|---|---|---|---|---|---|---|
| | | | | | | which is outside the elevation range of estuary seablite. |
| Parry's tetracoccus | *Tetracoccus dioicus* | CNPS: 1B.2 | Chaparral and coastal scrub. Elevation 541 – 3,281 feet. Perennial deciduous shrub, blooms April–May. | Low-growing chamise chaparral with moderately dense canopy cover. Soils include Las Posas and xeric conditions. | Not Detected, Moderate Potential | Moderate potential to occur within the 250-foot Study Area. The species was not detected during project surveys. The closest known location of Parry's tetracoccus occurs approximately 5 miles north of the 250-foot Study Area. The elevation range in the 250-foot Study Area is 492 – 722 feet, which is outside the elevation range of Parry's tetracoccus. |

[1] CESA = California Endangered Species Act; FESA = federal Endangered Species Act
California Native Plant Society (CNPS)

1A = Species presumed extinct.
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2A = Plants Presumed Extirpated in California, but more common elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.
3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

Threat Code Extensions:
.1 = Seriously endangered in California
.2 = Fairly endangered in California
.3 = Not very threatened in California

[2] Habitat Descriptions: California Native Plant Society. Rare Plant Database. Accessed: February 2013 at http://www.cnps.org/cnps/rareplants/.
[3] Rationale citation and microhabitat citation –Reiser, Craig. 1994. Rare plants of San Diego County. Available at http://sandiego.sierraclub.org/rareplants/003.html.

### 3.4.2 Nonlisted Special-status Plant Species

Twelve nonlisted special-status (CNPS-listed) plant species were detected during surveys, including San Diego goldenstar (*Bloomeria clevelandii*), variegated dudleya, Palmer's grappling-hook (*Frankenia palmeri*), San Diego County needle grass (*Stipa diegoensis*), San Diego sunflower, small-flowered morning glory (*Convolvulus simulans*), coast barrel cactus (*Ferocactus viridescens*), Tecate cypress (*Hesperocyparis forbesii*), San Diego marsh-elder (*Iva hayesiana*), spiny rush (*Juncus acutus* ssp. *leopoldii*), Munz's sage, and small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*). Nonlisted special-status plant species not detected during surveys, but with potential to occur within the vicinity of the Proposed Project, are discussed in Table 3-3 and are not discussed further in the text.

#### 3.4.2.1 San Diego Goldenstar

Species Background

San Diego goldenstar is a CNPS 1B.1 listed species (rare, threatened, or endangered in California and elsewhere). San Diego goldenstar is not state or federally listed. This species, native to California, prefers habitat in clay soils, chaparral, coastal scrub, valley and foothill grassland, and vernal pools. The elevation range is 164 to 1,526 feet. San Diego goldenstar is a perennial cryptic bulbiferous herb that dies back after flowering. It is in the Themidaceae family and blooms April through May.

Occurrence in the 250-foot Study Area

San Diego goldenstar was detected in openings of coastal sage scrub in the northern segment of the 250-foot Study Area and also in the southeastern area of the 250-foot Study Area (Figure 3-3). Approximately 554 plants were detected and were in full bloom during rare plant surveys.

#### 3.4.2.2 Variegated Dudleya

Species Background

Variegated dudleya is a CNPS 1B.2 listed species (rare, threatened, or endangered in California and elsewhere). This species, native to California, prefers habitat in clay soils, cismontane woodland, chaparral, coastal scrub, valley and foothill grassland, and vernal pools. The elevation

range is 10 to 1,903 feet. Variegated dudleya is a cryptic perennial herb that dies back after flowering. It is in the stonecrop family (Crassulaceae) and blooms April through June.

Occurrence in the 250-foot Study Area

Variegated dudleya was detected in two locations within clay openings of coastal sage scrub habitat in the northern segment of the 250-foot Study Area east of Alta Road (Figure 3-3). Approximately 200 plants were observed and were blooming at the time of detection.

#### 3.4.2.3 Palmer's Grappling Hook

Species Background

Palmer's grappling hook is a CNPS 4.2 listed species (uncommon in California). Palmer's grappling hook is not state or federally listed. This species, native to California, prefers habitat in clay soils, chaparral, coastal scrub, and valley and foothill grassland. The elevation range is 66 to 3,133 feet. Palmer's grappling hook is an annual herb that dies back after flowering. It is in the forget-me-not family (Boraginaceae) and blooms March through May.

Occurrence in the 250-foot Study Area

Palmer's grappling hook was observed in clay openings of coastal sage scrub habitat in the northern segment of the 250-foot Study Area and also in the southeastern area of the 250-foot Study Area (Figure 3-3). Approximately 254 plants were observed. The plants were blooming when first detected but were still observable later in the season when in fruit.

#### 3.4.2.4 San Diego County Needle Grass

Species Background

San Diego County needle grass is a CNPS 4.2 listed species (uncommon in California). This species is a perennial bunchgrass occurring in chaparral and sage scrub ecotone habitats (Reiser 1994). This species occurs locally along vernal streams and on clay soils between 33 to 2,625 feet in elevation. It is restricted to San Diego County, Santa Cruz Island, Anacapa Island, Santa Rosa Island, San Miguel Island, San Nicolas Island, and Baja California, Mexico (Reiser 1994). This species is known from the upper slopes of Jamul and McGinty Mountains, as well as Proctor Valley, Lee Valley, and Otay Mountain (Beauchamp 1986). The species has been slowly

declining on the periphery of urban expansion and is likely to sustain more impacts as the southern foothills receive development pressures. All sizeable populations should be protected, and substantial portions of smaller populations are recommended for biological open space (Reiser 2001).

Occurrence in the 250-foot Study Area

This species was observed on a north-facing slope of coastal sage scrub in the northern segment of the 250-foot Study Area (Figure 3-3). Approximately 304 plants were observed and were in bloom during the survey period.

#### 3.4.2.5 San Diego Sunflower

Species Background

San Diego sunflower is a CNPS 4.2 listed species (uncommon in California). This species is a yellow-flowered shrub occurring in coastal sage scrub habitats (Reiser 2001). This species occurs in southern San Diego County and northwestern Baja California. In San Diego County, San Diego sunflower occurs from the international border north to about Santee and extends from the seacoast east, at a few localities where habitat remains, to about Crest. The primary threat to this species is urbanization.

Occurrence in the 250-foot Study Area

San Diego sunflower was a common component of the coastal sage scrub habitat on one ridgetop in the northern segment of the 250-foot Study Area west of Alta Road (Figure 3-3). It was also observed in small patches in the southeastern segment of the 250-foot Study Area. Approximately 1,925 plants were observed.

#### 3.4.2.6 Small-flowered Morning Glory

Species Background

Small-flowered morning glory is a CNPS 4.2 listed species (uncommon in California). This species is a small annual that grows on friable clay soils typically devoid of shrubs, in openings in chaparral, sage scrub, and grasslands. As a clay endemic, it is found in numerous scattered

locations in friable soils within southern California. It is substantially declining due to loss of habitat.

Occurrence in the 250-foot Study Area

This species was associated with heavy clay soils in the southeastern area of the 250-foot Study Area south of the terminus of Paseo de la Fuente (Figure 3-3). The plants were associated with a restoration site established and maintained by RECON. Approximately 60 individuals were observed just outside the 250-foot Study Area.

#### 3.4.2.7 Coast Barrel Cactus

Species Background

Coast barrel cactus is a CNPS 2.1 listed species limited to San Diego County and Baja California, from Oceanside south to Boundary Monument. In San Diego County, this species is occasional on dry slopes between 10 to 1,476 feet in elevation and is found along the coastal slope, preferentially inhabiting coastal sage scrub habitat. Coast barrel cactus is seriously threatened by urbanization, off-road vehicles, and commercial exploitation.

Occurrence in the 250-foot Study Area

Coast barrel cactus was found in coastal sage scrub in the northern and southeastern segments of the 250-foot Study Area (Figure 3-3). Approximately 688 cacti were detected during surveys.

#### 3.4.2.8 Tecate Cypress

Species Background

Tecate cypress is a CNPS 1B.1 listed species that occurs in Orange County, San Diego County, and Baja California. Otay Mountain has one of the largest Tecate cypress populations in the world. The restricted and scattered distribution of Tecate cypress throughout its range suggests that it may be relictual. It has adapted well to the natural fire interval characteristic of southern California (50 to 100 years); however, increased fire frequency from human-triggered fires may result in reduced populations (Reiser 2001). This cypress is the only known host plant for the sensitive Thorne's hairstreak butterfly (*Mitoura thornei*).

Occurrence in the 250-foot Study Area

Tecate cypress was detected on the manufactured slope east of Alta Road at the crossing of O'Neil Canyon in the northern segment of the 250-foot Study Area (Figure 3-3). A total of 10 Tecate cypress were observed and apparently were planted on the slope. This species is known to occur naturally nearby (upstream) in O'Neal Canyon.

### 3.4.2.9 San Diego Marsh-Elder – or San Diego Poverty Weed

Species Background

San Diego marsh-elder is a CNPS List 2.2 species. This species occurs in southwestern San Diego County and northern Baja California (Munz 1974). Reported localities include Rancho Santa Fe, Miramar Reservoir, Peñasquitos Canyon, Alvarado Canyon, Proctor Valley, La Presa, Otay, Tijuana River Valley, and Otay Mesa (Beauchamp 1986). It is frequent in low-lying, moist or alkaline places along the coast and has been recorded along intermittent streams. San Diego marsh-elder is a perennial subshrub. Although rare in the County, this species is apparently more common and widespread south of the border. This species is threatened primarily by waterway channelization and development.

Occurrence in the 250-foot Study Area

San Diego marsh-elder was detected in akali seep habitat in the drainage just south of the terminus of Paseo de la Fuente, and in the southeastern corner of the 250-foot Study Area (Figure 3-3). Approximately 125 shrubs of San Diego marsh-elder were observed.

### 3.4.2.10 Spiny Rush

Species Background

This CNPS 4.2 listed species is found in drainages and wetland areas south of Agua Hedionda to the Otay River Valley. Spiny rush is a relatively common plant associated with moist, saline or alkaline soils. The sensitivity of this plant is due to the decline in wetland habitats throughout San Diego County.

Occurrence in the 250-foot Study Area

Spiny rush was detected in the northern segment of the 250-foot Study Area in an intermittent drainage feature (Figure 3-3). Eight clumps of spiny rush were detected during surveys.

#### 3.4.2.11 Munz's Sage

Species Background

This CNPS 2.2 listed species is a soft woody shrub distributed in the south foothills and coastal region of San Diego County. Reported localities for this species include San Miguel, Jamul, and Otay Mountains; Dictionary Hill; Proctor Valley; and Lower Otay Lake (Beauchamp 1986). This species occurs in coastal sage scrub habitat. Munz's sage is a small shrub that occurs between 378 to 3,494 feet in elevation.

Occurrence in the 250-foot Study Area

Munz's sage was observed on the slopes with coastal sage scrub in the northern segment of the 250-foot Study Area (Figure 3-3). Approximately 95 plants were observed.

#### 3.4.2.12 Small-flowered Microseris

Species Background

Small-flowered microseris is a CNPS 4.2 listed species found on clay lenses in perennial grasslands and on the periphery of vernal pools. This nondescript annual is found in San Diego, Riverside, and Orange Counties south to Baja California. It is presumed to be severely declining in southern California due to urban development (Reiser 2001).

Occurrence in the 250-foot Study Area

Small-flowered microseris was found in abundance in the clay openings of coastal sage scrub and native grassland in the northern and southeastern segments of the 250-foot Study Area (Figure 3-3). Over 130,000 plants were detected within the 250-foot Study Area.

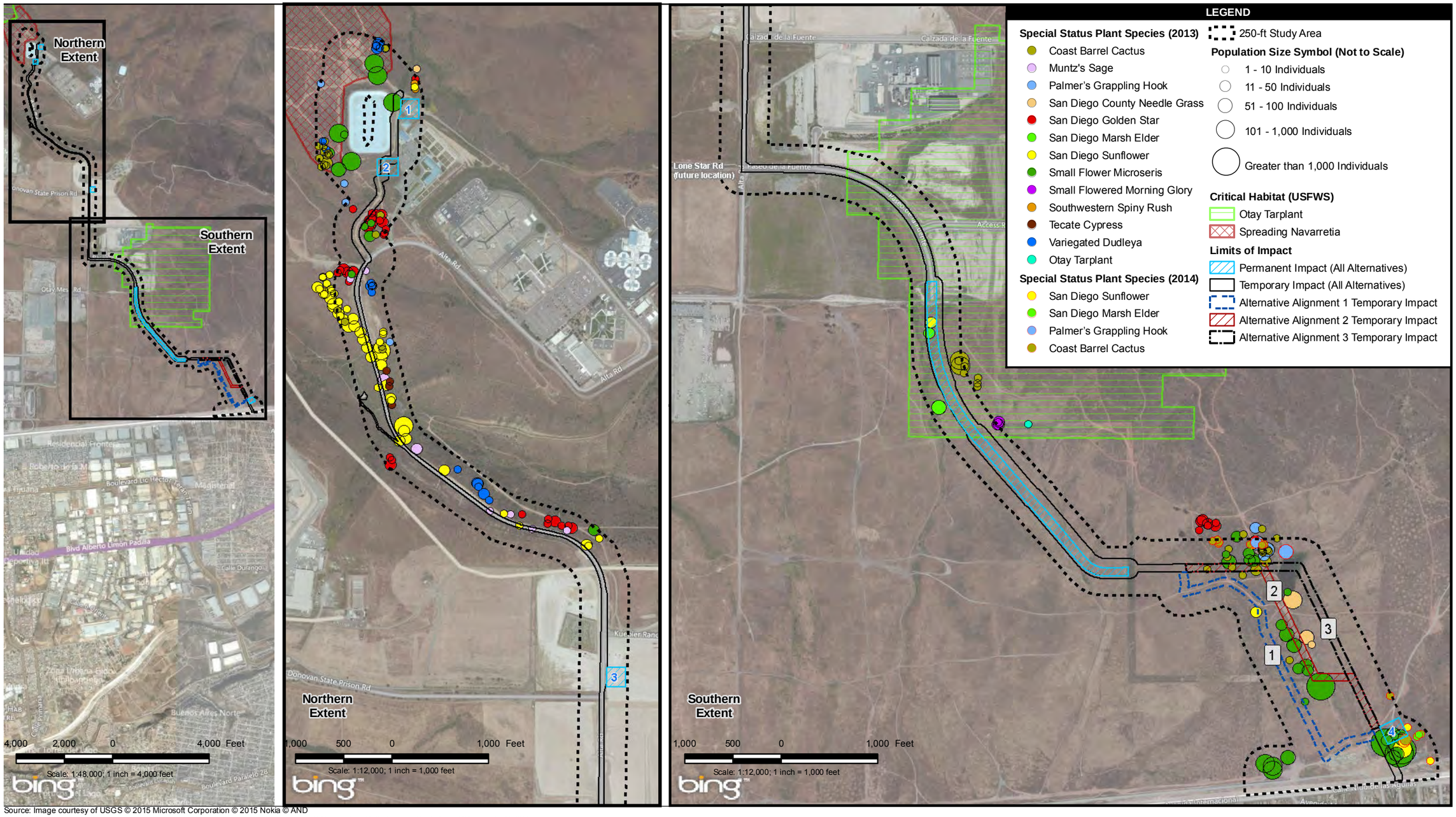


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**Figure 3-3**
**Special Status Plant Species Results**



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## 3.5 SPECIAL-STATUS WILDLIFE

This section discusses special-status wildlife species detected and those evaluated for their potential to occur within the vicinity of the Proposed Project. Common wildlife observed during the Proposed Project surveys is typical of urban, grassland, scrub, and riparian communities in San Diego County. A total of 131 wildlife species were documented during biological surveys, including 30 invertebrate species, two amphibian species, eight reptile species, 84 bird species, and seven mammal species (Appendix C). A total of 49 special-status wildlife species were evaluated for potential to occur in the 500-foot Study Area based on database searches, literature review, and Proposed Project surveys (Table 3-4). Of these 49 special-status plant species evaluated, 22 were detected during surveys and 27 have some potential to occur within the 500-foot Study Area.

**Table 3-4**
**Special-status Wildlife Species Known or Potential to Occur in the 500-foot Study Area**

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| **Invertebrates[2]** | | | | |
| Quino checkerspot butterfly *Euphydryas editha quino* | FE | Sunny openings within coastal sage scrub and chaparral scrublands. Requires plantain (*Plantago* spp.) or owl's clover (*Castilleja exserta*) as a host plant. | Present | This species was observed in the northern portion of the 250-foot Study Area, north of Alta Rd. Also, one individual was detected in the southeastern section of the 250-foot Study Area. |
| San Diego fairy shrimp *Brachinecta sandiegonensis* | FE | Restricted to shallow and small vernal pools, and hardpan and claypan pools. Found in Orange and San Diego Counties, and Baja California. | Historically Detected, High Potential | This species has high potential to occur due to the presence of vernal pools within the 250-foot Study Area. Although not detected during the surveys, San Diego fairy shrimp was detected during surveys conducted by Helix Environmental and EDAW, Inc. in 2001 within the southern portion of the 250-foot Study Area (CDFW 2013). |
| Riverside fairy shrimp *Streptocephalus woottoni* | FE | Restricted to shallow and small vernal pools, and hardpan and claypan pools. Found in Orange and San Diego Counties, and Baja California. | Detected | This species was observed in one pool located at the southeastern portion of the 250-foot Study Area. |
| **Amphibians** | | | | |
| arroyo toad *Anaxyrus californicus* | FE, CSC | Inhabits washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks, and cottonwoods. Extremely specialized habitat needs, including exposed sandy stream sides with | Not Detected, Low Potential | This species has low potential to occur within the 500-foot Study Area due to lack of suitable habitat. |

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| | | stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding. | | |
| western spadefoot toad *Spea (Sacphiopus) hammondii* | CSC, WL | Temporary ponds, vernal pools, and backwaters of slow-flowing creeks required for breeding and egg-laying. Also upland habitats such as grasslands and coastal sage scrub where burrows are constructed. | Not Detected, Moderate Potential | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |
| **Reptiles** | | | | |
| silvery legless lizard *Anniella pulchra pulchra* | CSC | Occurs in moist and warm loose soil with plant cover such as sparsely vegetated areas of beach dunes; chaparral; pine-oak woodlands; desert scrub; sandy washes; and stream terraces with sycamores, cottonwoods, or oaks. | Not Detected, Low Potential | This species has low potential to occur within 500-foot Study Area due to presence of marginally suitable habitat. |
| Belding's orange-throated whiptail *Aspidoscelis [=Cnemidophorus] hyperythra beldingi* | CSC | Chaparral, coastal sage scrub with coarse sandy soils, and scattered brush. | Not Detected, Moderate Potential | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |
| red-diamond rattlesnake *Crotalus ruber* | CSC | Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Habitat preferences include dense vegetation in rocky areas. | Present | This species was documented twice within the 500-foot Study Area at the north end in the vicinity of O'Neal Canyon. |
| western pond turtle *Emys marmorata* | CSC | Associated with permanent water or nearly permanent water from sea level to 6,000 feet. Prefers habitats with basking sites such as floating mats of vegetation, partially submerged logs, rocks, or open mud banks. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the lack of suitable habitat. |
| Blainville's horned lizard *Phrynosoma blainvillei* | CSC | A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil. | Present | This species was documented within the 500-foot Study Area at the north end in the vicinity of O'Neal Canyon. |
| coast patch-nosed snake *Salvadora hexalepis virgultea* | CSC | A variety of habitats including coastal sage scrub, chaparral, riparian, grasslands, and agricultural fields. Prefers open habitats with friable or sandy soils, burrowing rodents for food, and enough cover to escape predation. | Not Detected, Moderate Potential | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| two-striped garter snake *Thamnophis hammondii* | CSC | Along permanent streams, creeks, vernal pools, and intermittent streams. Can occur a distance away from permanent water sources. | Not Detected, Moderate Potential | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |
| Coronado skink *Plestiodon skitonianus interparietalis* | CSC | Most commonly found in open areas, grassland, sparse brush, and in oak woodlands, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs. | Not Detected, High Potential | This species has a high potential to occur within the 500-foot Study Area due to the presence of highly suitable habitat. |
| **Birds** | | | | |
| Cooper's hawk *Accipiter cooperii* | WL | Usually in oak woodlands, but occasionally in willow or eucalyptus woodlands. | Present | This species was documented at multiple locations within the 500-foot Study Area and a nest was documented at the far north end of the 500-foot Study Area in a willow-lined canyon. |
| tricolored blackbird *Agelaius tricolor* | CSC | Nests in dense colonies in freshwater marshes and forages in nearby grasslands, pastures, or agricultural fields. | Not Detected, Moderate Potential | This species has moderate potential to occur within the 500-foot Study Area due to the presence of suitable foraging habitat and suitable breeding habitat nearby. |
| southern California rufous-crowned sparrow *Aimophila ruficeps canescens* | WL | Coastal sage scrub, chaparral, and grassland; favors steep and rocky areas. Localized resident. | Present | This species was documented at multiple locations within the 500-foot Study Area on hillsides with coastal sage scrub. |
| grasshopper sparrow *Ammodramus savannarum* | CSC | Nests exclusively in grassland, preferring areas dominated by native bunchgrasses. | Present | This species was detected at multiple locations within the 500-foot Study Area in areas of extensive grasslands. |
| Bell's sage sparrow *Amphispiza belli belli* | WL | Nests in chaparral dominated by chamise, but is also found in coastal sage scrub south of this species' range. | Not Detected, Moderate Potential | This species has moderate potential to occur within the 500-foot Study Area due to the presence of suitable habitat. |
| golden eagle *Aquila chrysaetos* | CFP, WL | Nests on cliff ledges, tree tops, and steep slopes; forages in grassland, coastal sage scrub, and broken chaparral. | Not Detected, Moderate Potential | This species has moderate potential to forage within the 500-foot Study Area due to the presence of suitable foraging habitat and suitable breeding habitat 4.5 miles east of the 500-foot Study Area on Otay Mountain. |
| short-eared owl *Asio flammeus* | CSC (nesting) | Primarily a winter visitor to marshes and grasslands. | Present | This species was documented in the southeastern portion of the 500-foot Study Area, roosting in open grassland. It was not detected during any project-specific surveys after March 19, 2013, of this year. This species is extremely rare in the breeding season in San Diego County and has not been documented |

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| | | | | breeding in San Diego County since 1906. |
| western burrowing owl *Athene cunicularia hypugaea* | CSC | Annual and perennial grasslands, deserts, agricultural areas, disturbed habitat, and scrublands, characterized by low-growing vegetation. | Present | This species was documented at multiple locations within the 500-foot Study Area, primarily in the south end of the Proposed Project where it was confirmed to be breeding. |
| coastal cactus wren *Campylorhynchus brunneicapillus couesi* | CSC | Coastal sage scrub with extensive stands of tall prickly pear or cholla cacti (*Opuntia* sp.). | Not Detected, Low Potential | This species has low probability to occur within the 500-foot Study Area as there is no suitable cactus habitat. |
| northern harrier *Circus cyaneus hudsonius* | CSC | Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident. | Present | This species was documented at multiple locations within the 500-foot Study Area, primarily in the south end where an active nest was located. |
| western yellow-billed cuckoo *Coccyzus americanus occidentalis* | SE | Riparian habitats of willows and cottonwoods with dense understory that abuts slow-moving watercourses, backwaters, or seeps. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the lack of suitable habitat. |
| white-tailed kite *Elanus leucurus* | FP | Riparian habitats, including oak and sycamore groves, adjacent to grasslands. | Present | This species was documented foraging at multiple locations within the 500-foot Study Area. |
| southwestern willow flycatcher *Empidonax traillii extimus* | FE, SE | Dense, riparian woodlands of willow, cottonwood, and other deciduous trees with perennial water. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the lack of suitable habitat. |
| California horned lark *Eremophila alpestris actia* | WL | Grasslands and open habitats with low, sparse vegetation. | Present | This species was observed in the northern end of the 500-foot Study Area in grassland and was documented nesting in disturbed habitats. |
| merlin *Falco columbarius* | WL (wintering) | A winter visitor in open habitats such as grasslands, mudflats, coastal sage scrub, and chaparral | Present | This species was observed twice within the 500-foot Study Area, last observed on April 18, 2013. |
| American peregrine falcon *Falco peregrinus anatum* | FP (nesting) | Resident in a variety of open habitats near water where shorebirds and waterfowl concentrate. Nests on cliffs, buildings, cranes, and bridges. | Present | This species was observed foraging within the 500-foot Study Area on two occasions. It has low potential to nest within the 500-foot Study Area due to lack of suitable nesting habitat. |
| yellow-breasted chat *Icteria virens* | CSC | Riparian thickets consisting of willow and other brushy thickets near watercourses. | Present | This species was observed in the central portion of the 500-foot Study Area in some dense brush. Its presence throughout the breeding season suggests nesting occurred, but this was not confirmed. |
| loggerhead shrike *Lanius ludovicianus* | CSC | Year-round resident in grassland, open coastal sage scrub, and chaparral. | Present | This species was documented nesting in the 500-foot Study Area at the south end of the site. |

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| double-crested cormorant *Phalacrocorax auritus* | WL (nesting colony) | Fresh and saltwater habitats. Nests in trees surrounded by water or on the ground in sites isolated from predators. | Present | This species was detected as it flew over the 500-foot Study Area. It has low potential to occur or nest within the 500-foot Study Area due to lack of suitable habitat. |
| coastal California gnatcatcher *Polioptila californica californica* | FT, CSC | Diegan coastal sage scrub dominated by California sagebrush (*Artemisia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*) below 2,500 feet elevation in Riverside County and below 1,000 feet elevation along the coastal slope; generally avoids steep slopes above 25% and dense, tall vegetation for nesting. | Present | This species was documented at multiple locations within the northern end of the 500-foot Study Area. Multiple family groups were observed within the 500-foot Study Area confirming nesting in the area, but exact nest locations were never confirmed. |
| yellow warbler *Setophaga petechia brewsteri* | CSC | A fairly common summer breeding resident found along mature riparian woodlands that consist of cottonwood, willow, alder, and ash trees. It is restricted to this increasingly patchy habitat. | Present | This species was documented at the extreme northern end of the 500-foot Study Area in a willow-lined canyon. Breeding was not confirmed. |
| least Bell's vireo *Vireo bellii pusillus* | FE, SE | Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets | Present | This species was observed in riparian habitat in the northern end of the 500-foot Study Area where breeding was confirmed. |
| yellow-headed blackbird *Xanthocephalus xanthocephalus* | CSC (nesting) | Nests colonially in deeply flooded freshwater marshes. | Present | A single female of this species was observed within the 500-foot Study Area in a tall dense patch of Brassica. This species has low probability of nesting within the 500-foot Study Area due to lack of suitable habitat. |
| **Mammals** | | | | |
| pallid bat *Antrozous pallidus* | CSC | Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect them from high temperatures. | Not Detected, Moderate Potential | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |
| Dulzura California pocket mouse *Chaetodipus califonicus femoralis* | CSC | Slopes covered with chaparral and live oaks. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the presence of marginally suitable habitat. |
| northwestern San Diego pocket mouse *Chaetodipus fallax fallax* | CSC | Open sandy habitats grown to weeds. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the presence of marginally suitable habitat. |
| Mexican long-tongued bat *Choeronycteris mexicana* | CSC | Deserts and urban areas with buildings, caves, and mines. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the presence of marginally suitable habitat. |

| Species | Sensitivity Status [1] | General Habitat Description | Findings | Potential to Occur/Comments |
|---|---|---|---|---|
| California (western) mastiff bat<br>*Eumops perotis californicus* | CSC | Chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the presence of marginally suitable habitat. |
| western red bat<br>*Lasiurus blossevillii* | CSC | Roosts in forests and woodlands; forages over grasslands, shrublands, open woodlands and forests, and croplands. | Not Detected, Low Potential | This species has a low potential to occur within the 500-foot Study Area due to the presence of marginally suitable habitat. |
| San Diego black-tailed jackrabbit<br>*Lepus californicus bennettii* | CSC | Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. | Present | This species was detected throughout the 500-foot Study Area. Most occurrences were near canyons and hillsides with coastal sage scrub or chaparral. |
| California leaf-nosed bat<br>*Macrotus californicus* | CSC | Caves and abandoned mines | Not Detected, Low Potential | This species has low potential to occur due to lack of suitable habitat. |
| San Diego desert woodrat<br>*Neotoma lepida intermedia* | CSC | Common to abundant in Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. | Not Detected, Low Potential | This species has low potential to occur due to lack habitat. |
| pocketed free-tailed bat<br>*Nyctinomops femorosaccus* | CSC | Creosote bush and chaparral habitats. | Not Detected, Low Potential | This species has low potential to occur due to lack of suitable habitat. |
| big free-tailed bat<br>*Nyctinomops macrotis* | CSC | Pinyon-juniper and Douglas fir forests, chaparral and oak forests in mountains and foothills where rocky cliffs and crevices are present. | Not Detected, Low Potential | This species has low potential to occur due to lack of suitable habitat. |
| American badger<br>(*Taxidea taxus*) | CSC | Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils. | Not Detected | This species has a moderate potential to occur within the 500-foot Study Area due to the presence of moderately suitable habitat. |

[1]Status:

FEDERAL/STATE LISTED:
FE = Federally listed endangered
FT = Federally listed threatened
SE = State listed endangered
ST = State listed threatened

OTHER:
CFP = California Department of Fish and Game Fully Protected Species
CSC = California Department of Fish and Game Species of Special Concern
WL = California Department of Fish and Game Watch List
[2] Surveyed within the 250-foot Study Area

### 3.5.1 Federally Listed Species

Four federally listed wildlife species, RFS, QCB, CAGN, and LBV, were detected during biological surveys. SDFS was not detected during surveys but is known to occur in the vicinity of the Proposed Project (CDFW 2013). These five species are discussed below. Federally listed wildlife species not detected during surveys, but with potential to occur within the vicinity of the Proposed Project, are discussed in Table 3-4 and are not discussed further in the text.

#### 3.5.1.1 San Diego Fairy Shrimp

Species Background

The SDFS was listed as federally endangered on February 3, 1997 (USFWS 1997b). The SDFS is included in the approved recovery plan for the listed species of southern California vernal pools (USFWS 1998). The SDFS is a small freshwater crustacean in the Family Branchinectidae of the Order Anostraca. It is small and delicate with large stalked compound eyes, no carapace, and 11 pairs of swimming legs. Mature males attain 0.6 inch and females 0.5 inch in length, respectively. These tiny crustaceans can be distinguished from other fairy shrimp of the same genus by the shape of the second antenna (males) or the shape and length of the ovisac and the presence of paired dorsilateral spines. Fairy shrimp are presumed to feed on algae, bacteria, protozoa, rotifers, and bits of organic matter (USFWS 2003). SDFS is a habitat specialist found in smaller, shallow vernal pools and ephemeral (lasting a short time) basins that range in depth from approximately 2 to 12 inches (USFWS 1997b). However, the species occasionally occurs in ditches and road ruts that can support suitable conditions. No individuals have been found in riverine waters, marine waters, or other permanent bodies of water (USFWS 1998). Adult SDFS are usually observed from January through March; however, in years with early or late rainfall, the hatching period may be extended.

The species hatches and matures within 7 to 14 days, depending on water temperature (USFWS 1997b). SDFS may no longer be visible after about 1 month, but they will continue to hatch if subsequent rains result in additional water or refilling of the vernal pools (USFWS 1997b). The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The “resting eggs” or “cysts” are capable of withstanding temperature extremes and prolonged drying. When the pools refill in the same or subsequent rainy seasons, some, but not all, of the eggs may hatch. Fairy shrimp egg banks in the soil may be composed of the eggs from several years of breeding (USFWS 1997b).

SDFS are restricted to vernal pools in coastal southern California to extreme northwestern Baja California, with San Diego County supporting the largest number of remaining occupied vernal pools (USFWS 2003). USFWS estimated at the time of listing that fewer than 200 acres of occupied vernal pool habitat remained in San Diego County, of which an estimated 70% occurs on Department of Defense lands (USFWS 2003).

Habitat and Occurrence in the 250-foot Study Area

During the 2013/2014 wet season surveys, 23 temporary ponded areas, consisting of road ruts and vernal pools, were identified within the 250-foot Study Area. Nine of the 23 temporary ponded areas met the 2-week inundation sampling criteria per the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (USFWS 1996) and were sampled during the 2013/2014 wet season. The remaining 14 temporary ponded areas were not inundated for a sufficient enough time to be surveyed.

No SDFS were found within the nine pools that were sampled by AECOM within the 250-foot Study Area. Additionally, no SDFS were found within the five pools that were sampled by Helix within the 250-foot Study Area (Helix 2014). Based on surveys conducted between 2000 and 2009, SDFS are known to occur in the vicinity of the Proposed Project and southeast portion of the 250-foot Study Area (USFWS 2011) (Figure 3-4). It is possible that below-average rainfall conditions affected the ability to detect SDFS.

#### 3.5.1.2 Riverside Fairy Shrimp

Species Background

RFS is federally listed as endangered. USFWS listed the RFS as endangered on July 16, 1993 (58 Federal Register 41384). A recovery plan for this species has been issued (USFWS 1998).

The RFS is a small aquatic crustacean restricted to vernal pool environments. The RFS has a very restricted distribution. RFS have been detected in the vicinity of Temecula in Riverside County (Eng et al. 1990), in San Diego County on Otay Mesa, on Marine Corps Base Camp Pendleton, and on Marine Corps Air Station Miramar (Simovich and Fugate 1992). RFS prefer deeper ephemeral waters than SDFS and typically occupy vernal pools and temporary ponds in which water persists into April or May and reaches a minimum depth of 1 foot at filling (Eng et al. 1990). The primary threat to RFS is urban and agricultural development of their habitat (Eriksen and Belk 1999).

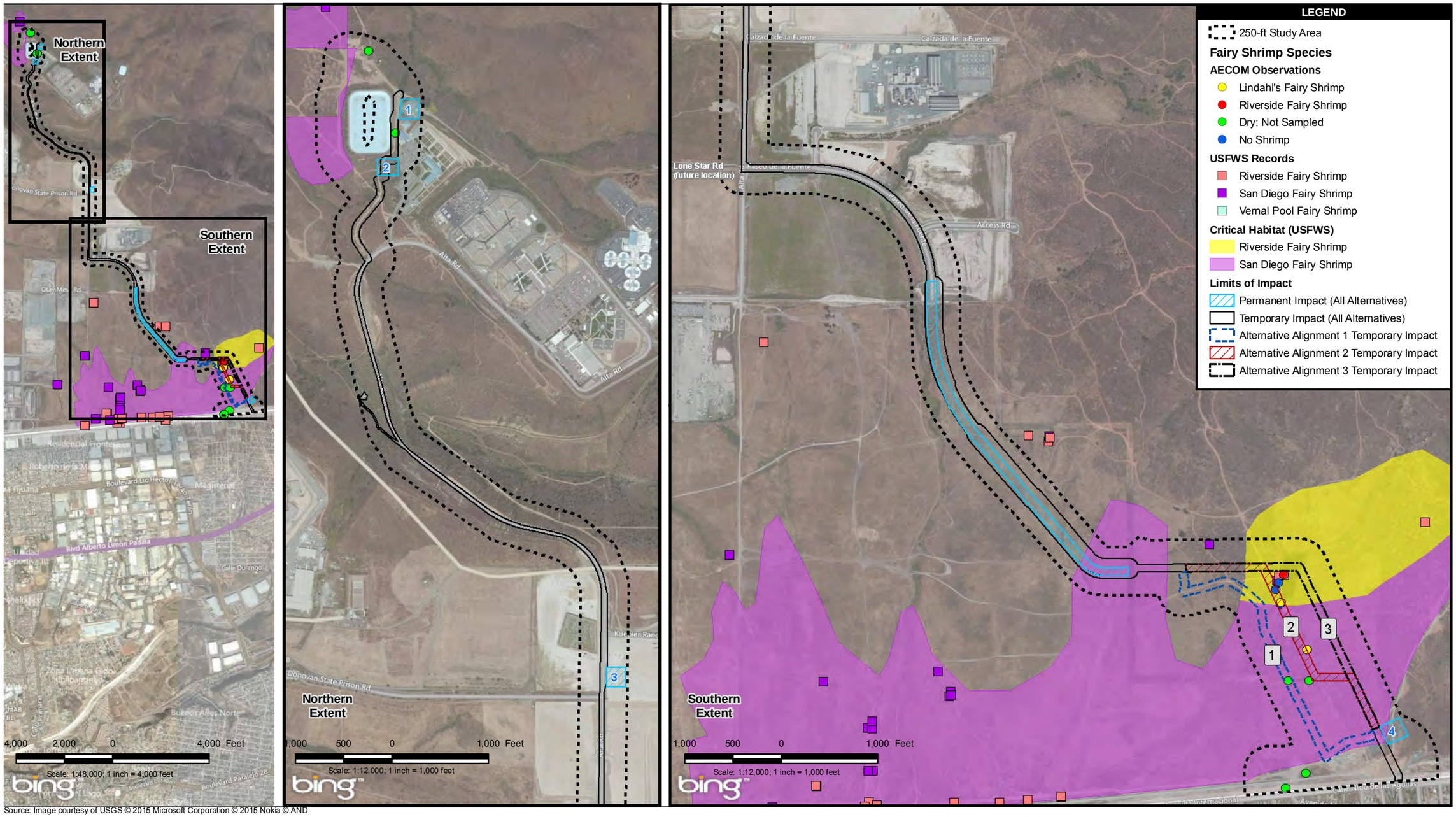


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**Figure 3-4**
**Fairy Shrimp Results**



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RFS has been found in San Diego County on mesa tops, and in grassland, agricultural, coastal sage scrub, and chaparral habitats. Chaparral, coastal sage scrub, and grassland habitats are associated most commonly with San Diego hardpan and claypan basins with suitable soil types to support vernal pools (Eriksen and Belk 1999).

Habitat and Occurrence in the 250-foot Study Area

During the 2013/014 wet season surveys, 23 temporary ponded areas, consisting of road ruts and vernal pools, were identified within the 250-foot Study Area. Nine of the 23 temporary ponded areas met the 2-week inundation sampling criteria per the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (USFWS 1996) and were sampled during the 2013/2014 wet season. The remaining 14 temporary ponded areas were not inundated for a sufficient enough time to be surveyed.

Of the nine pools sampled, RFS was detected in one pool located at the southeastern portion of the 250-foot Study Area (Figure 3-4). No RFS were found within the five pools that were sampled by Helix within the 250-foot Study Area (Helix 2014). Based on surveys conducted between 2000 and 2009, RFS are known to occur in the vicinity of the Proposed Project and southeast portion of the 250-foot Study Area. (Figure 3-4). It is possible that below-average rainfall conditions affected the ability to detect RFS in multiple pools.

#### 3.5.1.3 Quino Checkerspot Butterfly

Species Background

The QCB, a subspecies of Edith's checkerspot butterfly (*Euphydryas editha*), is a federally listed endangered species and is a covered species under SDG&E's NCCP. The current distribution of the species is limited to southern San Diego County and northern Baja California, Mexico, and western Riverside County. Distribution of this subspecies is driven by metapopulation dynamics involving local extinctions and population explosions, which lead to recolonization of habitat. QCB is generally found in native and nonnative grasslands, coastal sage scrub, open chaparral, and other open plant community types where high densities of host plant species occur (USFWS 1997c). The primary larval host plant species for the QCB is dwarf plantain (*Plantago erecta*) (Mattoni et al. 1997). Field observations and laboratory studies indicate several other host plants may be used for egg deposit and larval feeding, including purple owl's clover (*Castilleja exserta*), southern Chinese houses (*Collinsia concolor*), and bird's beak (*Cordylanthus rigidus*).

Adults have one flight period per year, which generally occurs between late January and mid-May, with peak activity between March and April. Adult males patrol suitable habitat for females, perching intermittently on the ground or vegetation. They also engage in hill-topping activity, during which hilltops or ridges are guarded against other males. Females lay egg masses on host plants, typically between mid-February and April. Eggs hatch in about 10 days, and the larvae begin to feed immediately. Substantial population decline has been observed after extended periods of drought. Evidence indicates that the species can undergo multiple-year diapause during drought, lasting up to 5 or 6 years.

Habitat and Occurrence in the 250-foot Study Area

Approximately 277 acres of native and nonnative grassland, Diegan coastal sage scrub, southern mixed chaparral, and disturbed habitats was surveyed within the 250-foot Study Area in 2013 and 2014 (Figure 3-5). In 2013, QCB were observed during surveys 1 through 3 and were primarily concentrated in a 19-acre area on the west side of the existing District water storage facility at the northern end of the 250-foot Study Area (Table 3-5; Figure 3-5). As discussed in the QCB methods in Section 2.6, the 19-acre area was not surveyed after week 3 to avoid disturbing QCB and because QCB have been well documented in this area (USFWS 2015) (Figure 3-5). One adult QCB individual was observed on March 22, 2013, during protocol coastal California gnatcatcher surveys in the southeast portion of the 250-foot Study Area (AECOM 2013a). In addition, QCB has been detected on multiple occasions in the vicinity of the Proposed Project during surveys for other projects (USFWS 2011, 2015; EDAW 2001) (Figure 3-5). No QCB were detected in the approximately 28-acre area surveyed in the southeast portion of the 250-foot Study Area in 2014.

The northern area, where QCB were the most numerous, contained open Diegan coastal sage scrub with vast patches of dot-seed plantain and numerous nectar sources, and was adjacent to open buckwheat shrubs for protection. Potential nectar sources within the 250-foot Study Area included microseris (*Microseris* sp.), goldfields (*Lathenia gracilis*), blue-eyed grass, and blue dicks (*Dichelostemma capitatum*). QCB were observed nectaring on goldfields and blue dicks during the focused presence/absence surveys. The quality of the habitat decreases heading south with the exception of the northern edge of the southeast portion of the 250-foot Study Area. This area contained large patches of dot-seed plantain, nectar resources, and soil crusts intermixed within coastal sage scrub. Outside of these two areas, suitable habitat, while it cannot be "excluded" per the current protocol, is heavily dominated by dense nonnative grasses with few host plants and nectar sources.

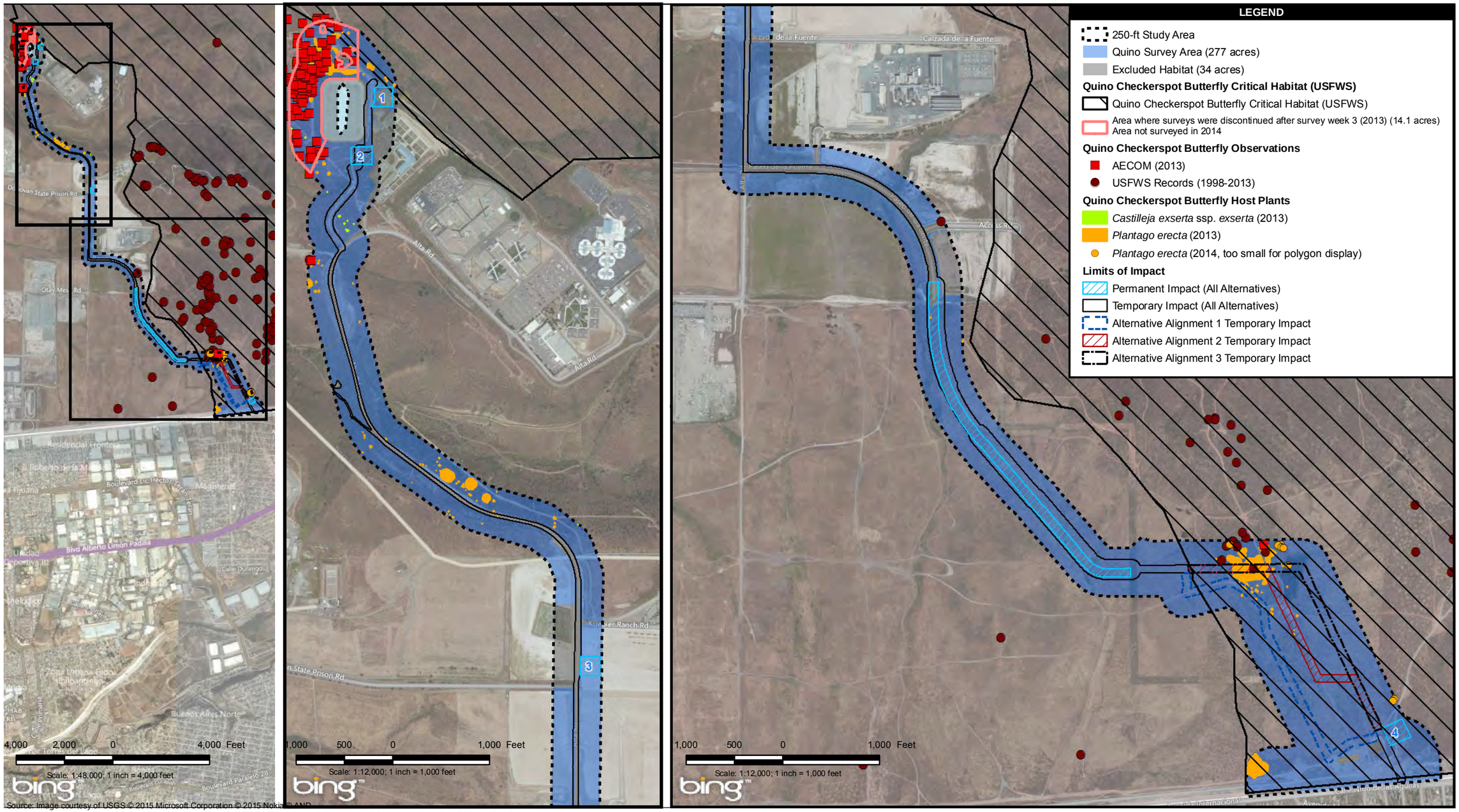


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**Figure 3-5**
**Quino Checkerspot Butterfly Results**



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**Table 3-5**
**Quino Checkerspot Butterfly Observations**

| Survey Week | Date | Time | Temp (°F) | Wind (mph) | % Cloud Cover | Permitted Biologist/ Observer | Date Reported to USFWS | Number of Quino Observed within QCB Survey Area[1,2] |
|---|---|---|---|---|---|---|---|---|
| 1 | 3/7/2013 | 1504 –1556 | 72 | 2–3.4 | 0 | Erin Bergman, Fred Sproul[1] | 3/7/2013 | 15 |
| 1 | 3/12/2013 | 1159 –1433 | 79 | 1.8–4.1 | 0 | Erin Bergman, Bonnie Hendricks | 3/13/2013 | 115 |
| 2 | 3/14/2013 | 1056 –1448 | 74 | 4.5–7 | 0 | Andrew Fisher, Barbra Calantas, Eric Piehel[1] | 3/15/2013 | 170 |
| 3 | 3/19/2013 | 1113 –1323 | 68 | 1.6–8 | 40–65 | Andrew Fisher, Erin Riley, James McMorran,[1] Brennan Mulrooney[1] | 3/21/2013 | 185 |
| 3 | 3/20/2013 | 1017 – 1212 | 72 | 3–4 | 15 | Andrew Fisher, James McMorran,[1], Eric Piehel[1] | 3/21/2013 | 1 |

[1] After survey week 3, the 250-foot Study Area decreased by 19 acres.
[2] No QCB were observed in 2014.

### 3.5.1.4 Coastal California Gnatcatcher

Species Background

The CAGN is federally listed as threatened and is considered a California species of special concern. CAGN is a local and uncommon year-round resident of southern California. This species is found in the six southernmost California counties located within the coastal plain (San Bernardino, Ventura, Los Angeles, Orange, San Diego, and Riverside).

The primary cause of this species' decline is the cumulative loss of coastal sage scrub vegetation to urban and agricultural development. Little of this species' habitat is formally protected or managed. Initial studies suggest that CAGN may be highly sensitive to the effects of habitat fragmentation and development activity (Atwood 1990; ERCE 1990). USFWS has estimated that coastal sage scrub habitat has been reduced by 70 to 90% of its historical extent (USFWS 1991) and little of what remains is in protected natural open space.

CAGN generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush and flat-topped buckwheat, generally below 1,500 feet in elevation along the coastal slope. When nesting, this species typically avoids slopes that are

greater than 25% and covered with dense, tall vegetation. CAGN pairs will attempt several nests each year (average of four) with each nest placed in a different location inside their breeding territory, but most nest attempts are unsuccessful due to depredation by a variety of species (Grishaver et al. 1998; Atwood and Bontrager 2001). Clutch size ranges from one to five eggs, with three or four eggs most common. CAGN will remain paired through the nonbreeding season and will generally expand their home range when not breeding.

CAGN is particularly vulnerable to habitat destruction and fragmentation because of their low dispersal rate, reliance on a specific habitat type, and poor breeding success. Juvenile CAGN tend to remain close to their natal territories. On average, juveniles disperse less than 1.2 miles from their natal territories, making colonization of distant habitat patches difficult. CAGN has been described as "an obligate resident of coastal sage scrub" (Atwood and Bontrager 2001), a vegetation community that is vulnerable to urban pressures. The destruction of coastal sage scrub by wildfire also has a detrimental effect on local CAGN populations. Weather conditions in 2007 may have contributed to an unfavorable breeding season because CAGN tend to have slightly smaller clutches in years with low rainfall (Grishaver et al. 1998). CAGN also experience a higher rate of mortality during cold winters, such as the unusually cold winter of 2006–2007 (Atwood and Bontrager 2001).

Habitat and Occurrence in the 500-foot Study Area

CAGN focused surveys were conducted on approximately 105 acres of suitable coastal sage scrub habitat within the 500-foot Study Area (Figure 3-6). CAGN were detected during all six protocol surveys in and around the Study Area. Observations were focused in three different locales and, consequently, three different territories were discerned within and around the Study Area (Figure 3-6). One family consisting of an adult pair and a single juvenile potentially comprise the detections of CAGN in the northernmost territory, north to northeast of the reservoir in the northern section of the Study Area.

Another family consisting of an adult pair with a juvenile CAGN belongs to the southernmost potential territory, located within O'Neal Canyon. Not all of the CAGN detections associated with this potential territory were within the Study Area (Figure 3-6). A single adult male CAGN occupies another potential territory north of O'Neal Canyon, east of Alta Road, with all detections within the Study area (Figure 3-6). Based on the proximity of multiple CAGN detections during repeat visits, it is approximated that there are three distinct territories, consisting of five adults and two juveniles (Figure 3-6). Locations where CAGN were detected also coincide with historic CAGN locations in the USFWS database (2015) (Figure 3-6).

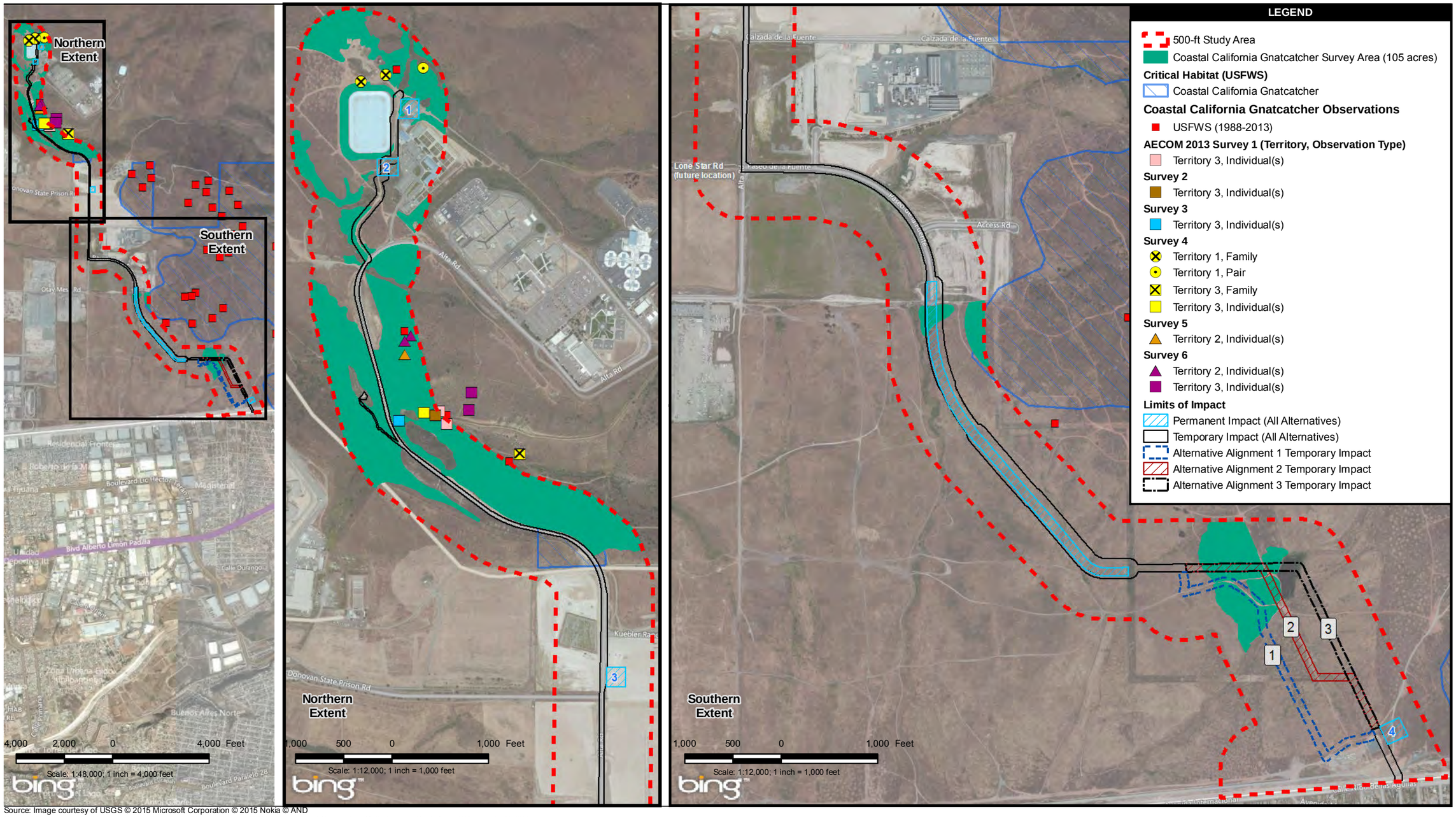


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**Figure 3-6**
**Coastal California Gnatcatcher Results**

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#### 3.5.1.5 Least Bell's Vireo

Species Background

LBV is federally and state listed as endangered. Historically, this species was a common summer visitor to riparian habitat throughout much of California. Currently, LBV is found only in riparian woodlands in southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside Counties. LBV is restricted to riparian woodland and is most frequent in areas that combine an understory of dense young willows or mulefat with a canopy of tall willows. Since LBV build their nests in dense shrubbery 3 to 4 feet above the ground (Salata 1984), they require young successional riparian habitat or older habitat with a dense understory. Therefore, riparian plant succession is an important factor in maintaining LBV habitat. Nests are also often placed along internal or external edges of riparian thickets (Unitt 2004). LBV is migratory and arrives in southern California in late March and early April and leaves for its wintering ground in September. The LBV's decline was attributed to loss, degradation, and fragmentation of riparian habitat combined with brood/nest parasitism by the brown-headed cowbird (*Molothrus ater*). Due to concerted programs focused on preserving, enhancing, and creating suitable nesting habitat, the vireo population has steadily increased in population size along several of its breeding drainages in southern California (USFWS 2006).

Habitat and Occurrence in the 500-foot Study Area

Focused surveys during the 2013 breeding season for LBV were conducted for approximately 9 acres of suitable riparian scrub habitat present within the 500-foot Study Area (Figure 3-7). The distribution of LBV detections throughout the survey period suggests that four distinct territories were involved. Three territories were within O'Neal Canyon and one was in the adjacent canyon to the north (Figure 3-7). Two of the territories were on the edges of the LBV survey area and those singing males were never determined as having mates. This may be because the surveyors stayed within the LBV survey area while the bulk of the birds' territories were outside the LBV survey area (Figure 3-7). The two territories that appeared entirely within the LBV survey area were confirmed to have produced young in 2013.

### 3.5.2 State-Listed Species

LBV is the only state-listed species documented during surveys and its background and occurrence are described above. State-listed wildlife species not detected during surveys, but

with potential to occur within the vicinity of the Proposed Project, are discussed in Table 3-4 and are not discussed further in the text.

### 3.5.3 Nonlisted Special-status Species

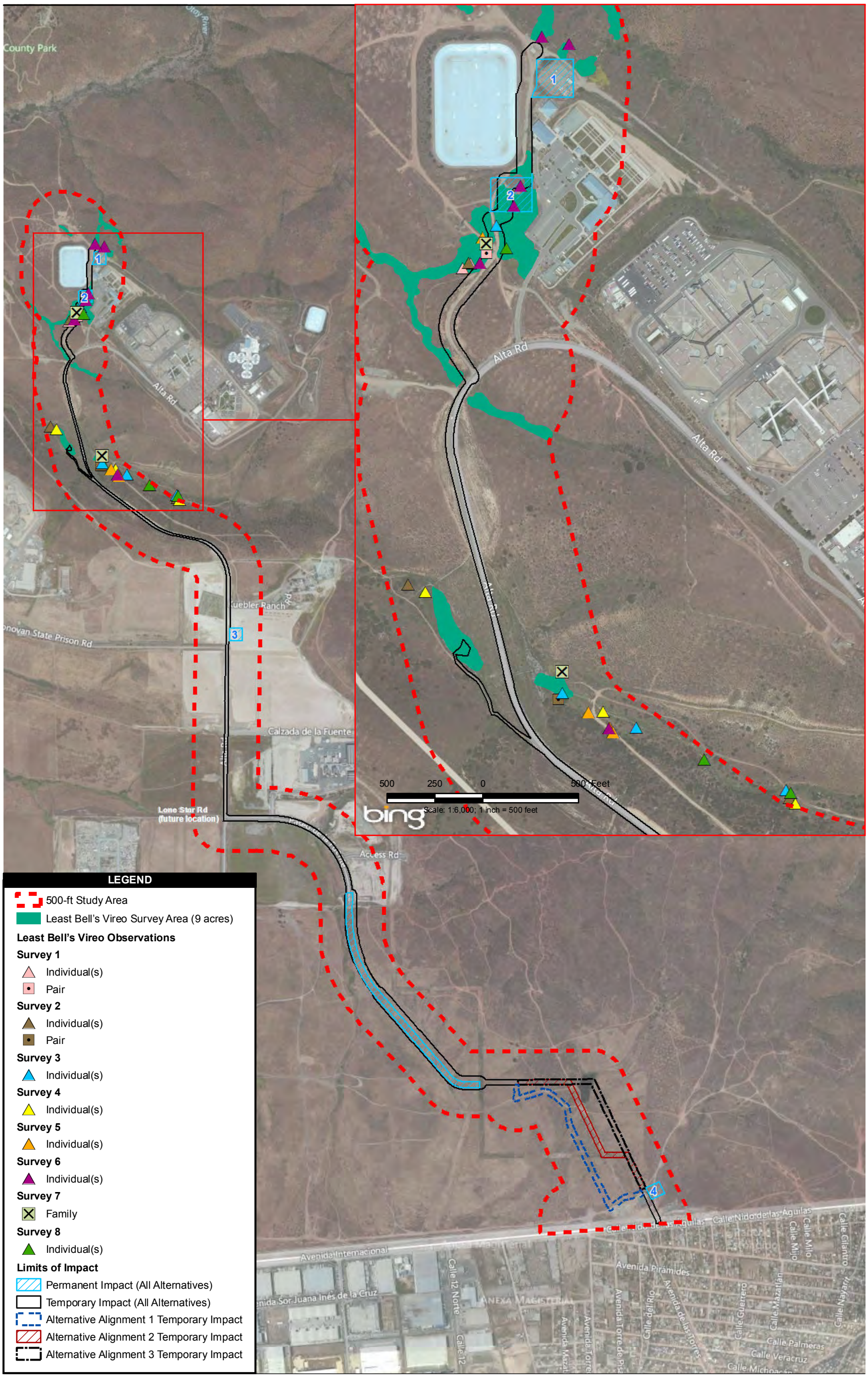
Eighteen nonlisted special-status wildlife species (CDFW species of special concern, CDFW watch list, and California fully protected) wildlife species were detected and mapped within the 500-foot Study Area as follows: WBO, red-diamond rattlesnake (*Crotalus ruber*), Blainville's horned lizard (*Phrynosoma blainvillei*), Cooper's hawk (*Accipiter cooperii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus cyaneus hudsonius*), California horned lark (*Eremophila alpestris actia*), merlin (*Falco columbarius*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), loggerhead shrike (*Lanius ludovicianus*), yellow warbler (*Setophaga petechia brewsteri*), short-eared owl (*Asio flammeus*), American peregrine falcon (*Falco peregrinus anatum*), double-crested cormorant (*Phalacrocorax auritus*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and San Diego black-tailed jack rabbit (*Lepus californicus bennettii*).

Sensitive avian species identified by CDFW are also identified by their season of concern (Shuford and Gardali 2008). For resident species, the season of concern is year-round, but for long distance migrants the season of concern is either wintering or nesting (Shuford and Gardali 2008). During the Proposed Project surveys, short-eared owl, American peregrine falcon, double-crested cormorant, and yellow-headed blackbird were detected; however, the season of concern for these species is nesting (i.e., breeding) (Table 3-4). No suitable breeding habitat occurs for these species within the 500-foot Study Area. These four species are discussed in Table 3-4, but are not discussed further in the text. The remaining 14 nonlisted special-status wildlife species are discussed below. Nonlisted special-status wildlife species not detected during surveys, but with potential to occur within the vicinity of the Proposed Project, are discussed in Table 3-4 and are not discussed further in the text.

#### 3.5.3.1 Western Burrowing Owl

Species Background

WBO is a CDFW species of special concern. It is primarily restricted to the western United States and Mexico. Habitat for the WBO includes dry, open, short-grass areas often associated

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1,500 750 0 1,500 Feet

Scale: 1:18,000; 1 inch = 1,500 feet

**Figure 3-7**
**Least Bell's Vireo Results**

Otay Mesa Conveyance and Disinfection System Project BTR

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with burrowing mammals (Haug et al. 1993). A year-round resident in San Diego County, the WBO ranges throughout the coastal lowlands in grasslands, agricultural areas, and coastal dunes (Unitt 2004). In Imperial County, it can be found in desert scrub, grassland, and agricultural areas, where it digs its own burrows or occupies existing burrows. WBO is diurnal and perches during daylight at the entrance to its burrow or on low posts. Nesting occurs from March through August. WBOs form a pair-bond for more than 1 year and exhibit high site fidelity, reusing the same burrow year after year (Haug et al. 1993). The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. The WBO is an opportunistic feeder, consuming a diet that includes arthropods, small mammals, and birds, and occasionally amphibians and reptiles (Haug et al. 1993). Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of this species include the poisoning of squirrels and prairie dogs and collisions with automobiles.

Habitat and Occurrence in the 500-foot Study Area

WBO focused surveys were conducted on approximately 317 acres of suitable habitat within the 500-foot Study Area. A total of 59 potentially suitable burrows or burrow clusters were documented in the 500-foot Study Area. Of these burrows, two were found occupied (i.e., WBO individual was observed present at the burrow) and one was found active (i.e., burrow with fresh WBO sign but no WBO individual was observed) during at least one survey (Figure 3-8). The remaining 56 burrows recorded were inactive, meaning they were suitable for WBO but no WBO individuals or sign was observed at the burrow during the time of the surveys.

One adult WBO was observed at the occupied burrow along Paseo de la Fuente during all four surveys in 2013 (Figure 3-8). Because the bird was not tagged, it could not be confirmed if the same WBO individual was detected during each survey or if a pair of adult WBO was using this burrow. One WBO individual was detected north of the junction of Alta Road and Paseo de la Fuente in 2013, but no active burrow was found in the vicinity of this individual (Figure 3-8).

One adult WBO was observed at an occupied burrow during the fourth survey within the approximately 21-acre area surveyed in the southeast portion of the 500-foot Study Area in 2014 (Figure 3-8). This WBO individual was detected near the end of the breeding season and it was likely a dispersing bird. The active burrow detected in the vicinity of this burrow was likely an alternate burrow the individual was using. WBO have historically occurred along the border fence near this area and to the west of the Propose Project (Helix 2011).

#### 3.5.3.2 Red-diamond Rattlesnake

Species Background

Red-diamond rattlesnake is a CDFW species of special concern. Red-diamond Rattlesnakes inhabit arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, and cultivated areas. On the desert slopes of the mountains, it ranges into rocky desert flats.

Habitat and Occurrence in the 500-foot Study Area

Suitable habitat for the red-diamond rattlesnake occurs within the coastal sage scrub, chaparral, and grassland habitats within the 500-foot Study Area. This species was incidentally observed twice in the 500-foot Study Area in coastal sage scrub on the slopes of O'Neal Canyon and the smaller canyon immediately to the north of O'Neal Canyon during QCB surveys (Figure 3-9).

#### 3.5.3.3 Blainville's Horned Lizard

Species Background

Blainville's horned lizard is a CDFW species of special concern. Blainville's horned lizards inhabit open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet in elevation. They are found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. They are often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.

Habitat and Occurrence in the 500-foot Study Area

Suitable habitat for the Blainville's horned lizard occurs within the coastal sage scrub, chaparral, and grassland habitats within the 500-foot Study Area. This species was incidentally observed in coastal sage scrub on the plateau north of O'Neal Canyon during QCB surveys (Figure 3-9).

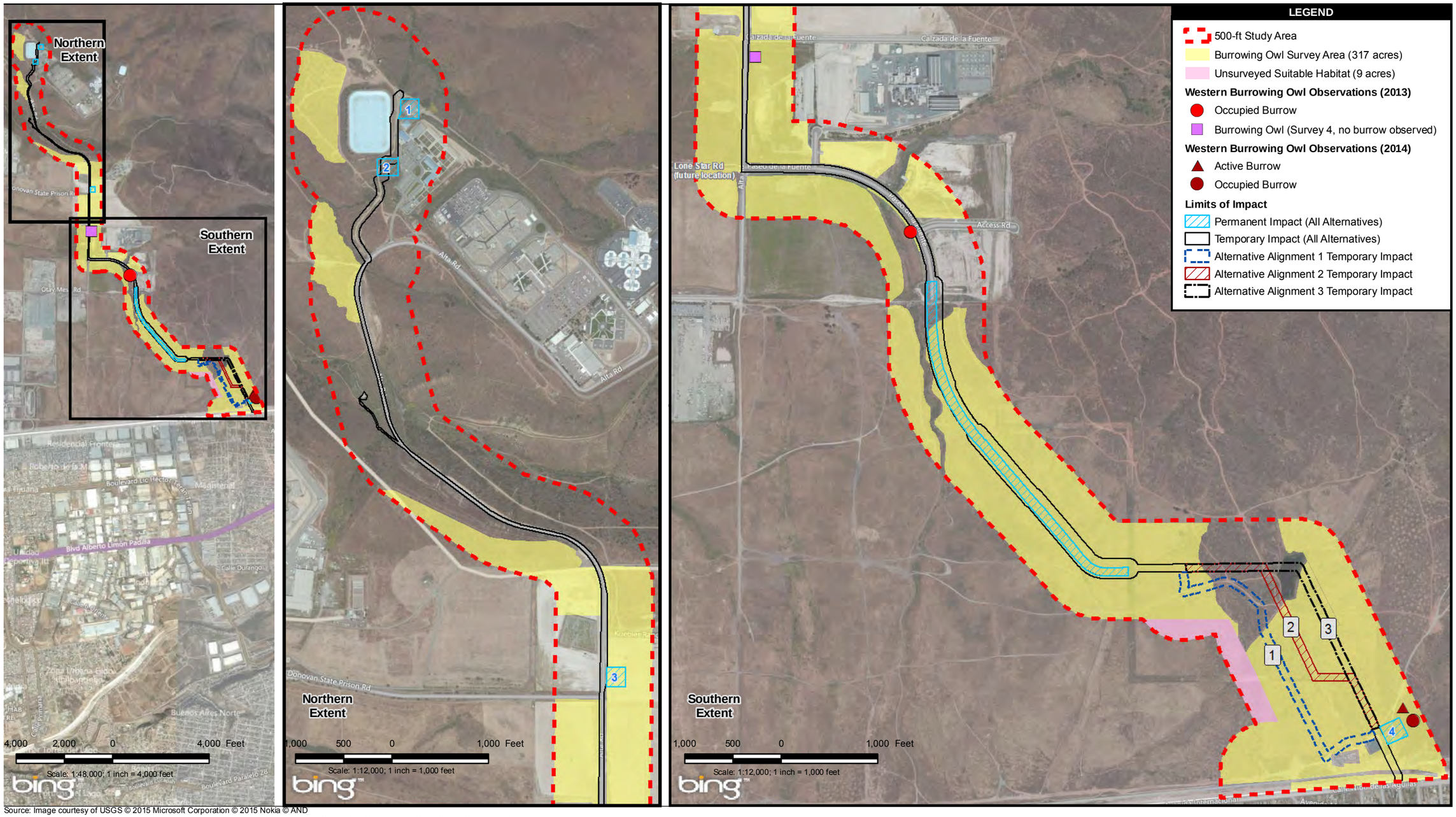


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**Figure 3-8**
**Western Burrowing Owl Results**



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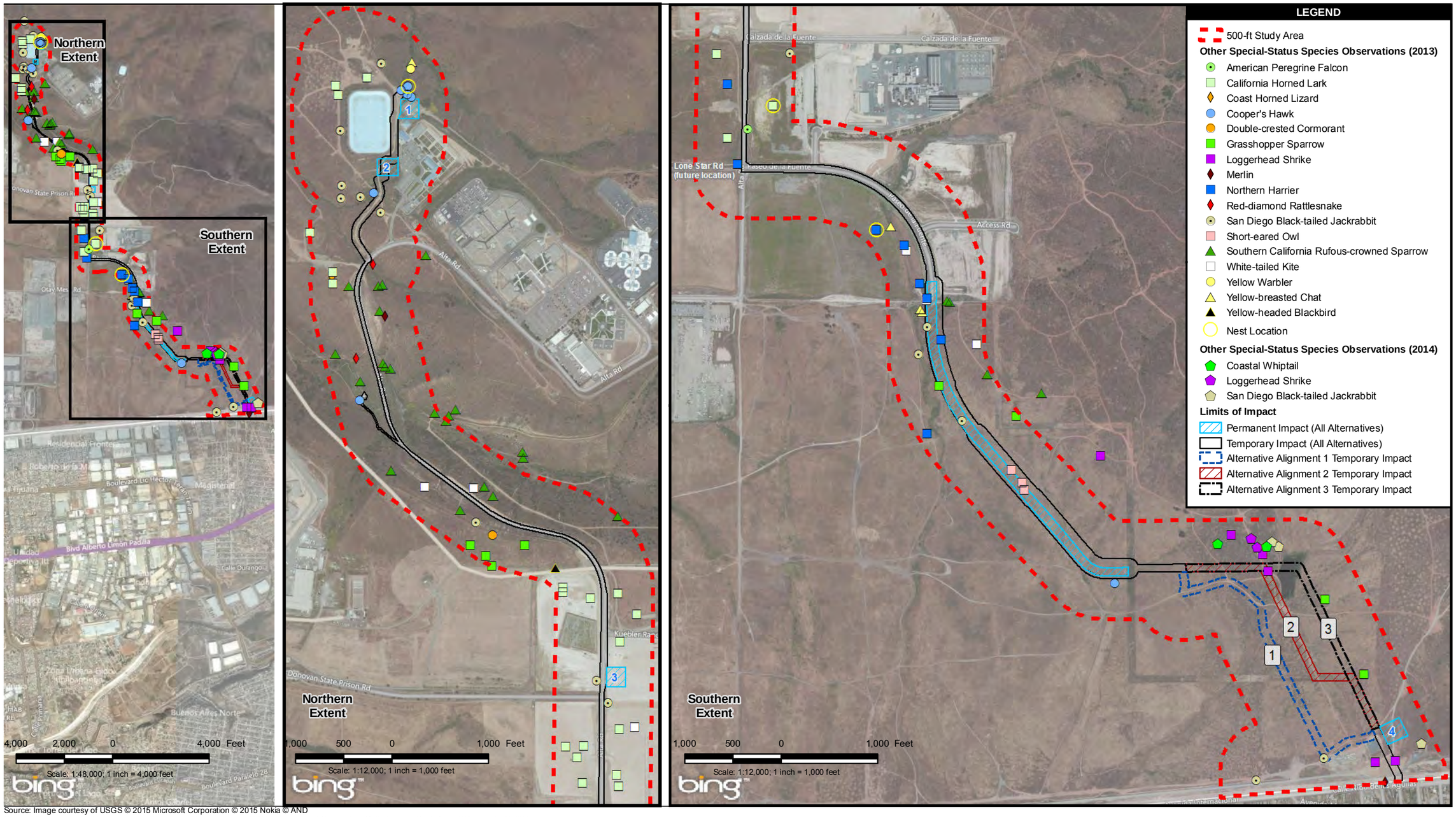


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**Figure 3-9**
**Other Special-Status Wildlife Species Results**



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#### 3.5.3.4 Cooper's Hawk

Species Background

Cooper's hawk is a CDFW watch list species. Cooper's hawks are generally found in forested areas up to 3,000 feet amsl. Cooper's hawks nest primarily in oak woodlands but occasionally in willows or eucalyptus. This species most frequently prefers dense stands of live oak, riparian deciduous, or other forest habitat near water. The species usually nests and forages near open water or riparian vegetation, but can be found in urban and suburban areas where there are tall trees for nesting.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging habitat for Cooper's hawk occurs within coastal sage scrub, grassland, and riparian habitats throughout the 500-foot Study Area. Nesting habitat for Cooper's hawk occurs within patches of southern willow scrub and riparian scrub habitats. An active Cooper's hawk nest was discovered in such a patch in the extreme north end of the 500-foot Study Area. Cooper's hawks were also incidentally observed foraging and perching in the 500-foot Study Area (Figure 3-9).

#### 3.5.3.5 Southern California Rufous-Crowned Sparrow

Species Background

Southern California rufous-crowned sparrow is a CDFW watch list species. This species' habitat consists of rocky hillsides and steep slopes in open grass and coastal sage scrub in areas, ranging from roughly 200 to 4,500 feet amsl.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging and nesting habitat for southern California rufous-crowned sparrow occurs in the northern portion and the southeastern section of the 500-foot Study Area. This species was incidentally observed on the coastal sage scrub-covered slopes in O'Neal Canyon and southeast of the terminus of Paseo de la Fuente (Figure 3-9).

#### 3.5.3.6 Grasshopper Sparrow

Species Background

Grasshopper sparrow is a CDFW species of special concern. Grasshopper sparrows are restricted to grassland habitats, preferring grasslands dominated by native bunchgrasses.

Habitat and Occurrence in the 500-foot Study Area

Suitable habitat for grasshopper sparrow occurs within the grasslands at the southern end of the 500-foot Study Area and on the plateau that lies south of O'Neal Canyon and west of Alta Road. Grasshopper sparrow was incidentally observed at several locations in these areas throughout the breeding season and is likely nesting within the 500-foot Study Area, though no nests were encountered (Figure 3-9).

#### 3.5.3.7 Northern Harrier

Species Background

Northern harrier is a CDFW species of special concern. Northern harriers are open-country birds, often seen soaring low over grassland habitat and farmlands. Harriers breed in marshes and grasslands and forage in grasslands, agricultural fields, wetlands, and open coastal sage scrub.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging and nesting habitat for northern harrier occurs within open coastal sage scrub and grassland habitats throughout the 500-foot Study Area. Northern harrier was incidentally observed foraging in open coastal sage scrub and grassland habitats at several locations within the 500-foot Study Area during surveys for QCB and WBO. The majority of detections were in the vicinity of an active nest found between Alta Road and Paseo de la Fuente (Figure 3-9).

#### 3.5.3.8 California Horned Lark

Species Background

California horned lark is a CDFW watch list species. California horned larks are birds of open spaces with very low stature vegetation or bare ground such as coastal grasslands, farmlands,

deserts, and beach dunes. Nests of this species are shallow cups of grass built directly on the ground next to small shrubs or herbaceous cover.

Habitat and Occurrence in the 500-foot Study Area

Suitable habitat for the California horned lark occurs throughout the 500-foot Study Area in sparse coastal sage scrub and developed areas that have been scraped clear of vegetation. The species was incidentally observed widely across the 500-foot Study Area during surveys for QCB, WBO, and CAGN. Breeding was confirmed with the discovery of a nest with eggs in the central portion of the 500-foot Study Area near Alta Road and Paseo de la Fuente (Figure 3-9).

#### 3.5.3.9 Merlin

Species Background

Merlin is a CDFW watch list species. Merlins are a rare winter migrant from September through May in San Diego County (Unitt 2004). It is seen most often seen in grassland, though it occasionally occurs in any habitat except dense woodland (Unitt 2004).

Habitat and Occurrence in the 500-foot Study Area

All the upland, riparian, and wetlands present in the 500-foot Study Area provide suitable habitat for wintering merlin. The species was incidentally observed in the 500-foot Study Area during focused surveys for LBV, WBO, and CAGN (Figure 3-9).

#### 3.5.3.10 White-tailed Kite

Species Background

White-tailed kite is a California fully protected species and is a fairly common resident in San Diego County. This species nests in riparian or oak woodland, or in large ornamental trees adjacent to grassland or open fields where it hunts rodents. White-tailed kite forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. This species soars, glides, and hovers less than 100 feet above the ground in search of prey.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging habitat for white-tailed kite occurs within coastal sage scrub, grassland, and riparian habitats throughout the 500-foot Study Area. Nesting habitat for white-tailed kite occurs within southern willow scrub and riparian scrub habitats. A grove of eucalyptus trees in the southeast portion of the 500-foot Study Area may also provide nesting habitat. White-tailed kite was observed foraging in grassland, open coastal sage scrub, and riparian habitats throughout the 500-foot Study Area. This species was incidentally observed during focused QCB, WBO, and CAGN surveys (Figure 3-9).

#### 3.5.3.11 Yellow-breasted Chat

Species Background

Yellow-breasted chat is a CDFW species of special concern. This species is typically found in second growth, shrubby old pastures, thickets, brushy areas, scrub, woodland undergrowth, and fencerows. Yellow-breasted chat is often found in low, wet places near streams, pond edges, or swamps. Nesting yellow-breasted chats occupy early successional riparian habitats with a well-developed shrub layer and an open canopy.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging and nesting habitat for yellow-breasted chat occurs within riparian, mulefat, tamarisk, and southern willow scrub habitats throughout the 500-foot Study Area. Yellow-breasted chat was incidentally observed in tamarisk scrub in the vicinity of the terminus of Paseo de la Fuente during focused surveys for WBO and CAGN (Figure 3-9).

#### 3.5.3.12 Loggerhead Shrike

Species Background

Loggerhead shrike is a CDFW species of special concern. Loggerhead shrike is an uncommon year-round resident in grassland, open coastal sage scrub, chaparral, and desert scrub. Nests are usually located in isolated, dense, thorny shrubs.

Habitat and Occurrence in the 500-foot Study Area

Suitable breeding habitat for loggerhead shrike occurs throughout the 500-foot Study Area. Loggerhead shrike was incidentally observed at various locations in grassland and coastal sage scrub in the southern half of the 500-foot Study Area during focused surveys for QCB, WBO, CAGN, and LBV (Figure 3-9). A family of loggerhead shrikes was incidentally observed within the 500-foot Study Area with fledglings being fed by adults, but the nest was never located and could not be confirmed to be within the 500-foot Study Area.

#### 3.5.3.13 Yellow Warbler

Species Background

Yellow warbler is a CDFW species of special concern. This species nests in mature riparian woodland from coastal and desert lowlands up to 8,000 feet in elevation. Yellow warbler prefers to nest in mature cottonwood, willow, alder, and ash trees. This species frequents open to medium-density woodlands and forests with a heavy brush understory in the breeding season.

Habitat and Occurrence in the 500-foot Study Area

Suitable foraging and nesting habitat for yellow warbler occurs within southern willow scrub at the extreme north end of the 500-foot Study Area. Yellow warbler was incidentally observed in riparian habitat during focused CAGN surveys. No breeding activity was observed (Figure 3-9).

#### 3.5.3.14 San Diego Black-tailed Jackrabbit

Species Background

San Diego black-tailed jackrabbit is a CDFW species of special concern. This species is found from the coast to the western slope of the coastal mountains, up to 6,000 feet in elevation, in San Diego County. It inhabits open land but requires some shrubs for cover. Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush.

Habitat and Occurrence in the 500-foot Study Area

Suitable habitat for San Diego black-tailed jackrabbit occurs within open coastal sage scrub and grassland habitats throughout 500-foot Study Area. This species was incidentally observed at

various locations throughout the 500-foot Study Area during focused surveys for QCB, CAGN, LBV, and WBO (Figure 3-9).

### 3.5.4 Migratory Birds

Native avian species present within the 500-foot Study Area are protected under the conventions implemented by the MBTA (see Section 1.3.1.5). Of the 83 avian species detected within the 500-foot Study Area, 79 are protected under the MBTA. The special-status avian species discussed in the sections above are also protected under the MBTA. Not all migratory birds have special status in the sense that they are considered rare, threatened, or endangered by local, state, or federal laws, ordinances, regulations, and standards and in need of conservation, but they are protected under the MBTA and CFGC Sections 3503, 3503.5, and/or 3513. Avian species use the 500-foot Study Area for nesting, foraging, wintering, and migration purposes (see Section 3.7).

## 3.6 CRITICAL HABITAT

Critical habitat is defined as areas of land, water, and air space that contain the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Critical habitat is designated by USFWS for endangered and threatened species per the federal ESA (16 USC Section 1533 (a)(3)), and to the extent prudent and determinable. Special management of critical habitat, including measures for water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types, is required to ensure the long-term survival and recovery of the identified species. Critical habitat designation delineates all suitable habitat for the species, whether or not it is occupied.

A review of final critical habitat boundaries (USFWS 2015) indicates that designated critical habitat for the federally endangered Otay tarplant, SDFS and RFS, and QCB, and the federally threatened spreading navarretia and CAGN coincides with the 500-foot Study Area throughout the Proposed Project.

A total of 65 acres of Otay tarplant critical habitat occurs near Paseo de la Fuente in the central portion of the 500-foot Study Area. Designated critical habitat for Otay tarplant also occurs just north of the northern terminus of the 500-foot Study Area (Figure 3-3).

A total of 23.8 acres of spreading navarretia critical habitat occurs in the extreme north end of the 500-foot Study Area (Figure 3-3). Spreading navarretia was not detected during rare plant surveys. Suitable habitat in the form of vernal pools is present within the 250-foot Study Area but areas consisting of vernal pools and heavy clay soils have been invaded by many nonnative species and it may be difficult for spreading navarretia to compete with these species.

Designated critical habitat for SDFS occurs in the extreme north and south ends of the 500-foot Study Area (Figure 3-4). A total of 115.2 acres of SDFS critical habitat occurs within the boundary of the 500-foot Study Area. A total of 20.2 acres of RFS critical habitat occurs within the southeast corner of the 500-foot Study Area (Figure 3-4).

Designated critical habitat for QCB surrounds the eastern boundary of the 500-foot Study Area, and occurs within the 500-foot Study Area at the northern and southern terminus (Figure 3-5). Additionally, a small area of 500-foot Study Area critical habitat occurs just south of Paseo de la Fuente. A total of 126.8 acres of QCB critical habitat occurs within the 500-foot Study Area.

Designated critical habitat for CAGN surrounds the eastern boundary of the 500-foot Study Area, and occurs within the 500-foot Study Area just south of Paseo de la Fuente (Figure 3-6). Additionally, an area of CAGN critical habitat occurs just north of Kuebler Ranch Road in the center of the 500-foot Study Area. A total of 7.7 acres of CAGN critical habitat occurs within the 500-foot Study Area.

No critical habitat for LBV or arroyo toad occurs within the 500-foot Study Area. There is no designated critical habitat for either of these species within 1 mile of the Proposed Project.

## 3.7 WILDLIFE CORRIDORS

In an urban context, a wildlife migration corridor is generally a linear landscape feature of sufficient width and buffer to allow wildlife movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

In general, wildlife species are likely to use habitat within the 500-foot Study Area for local movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). As indicated by the presence of the species detected during surveys, the 500-foot Study Area is part of the home range of many species, which may use it at different times of the year depending on available resources.

Regionally, the 500-foot Study Area represents the western edge of a large, unfragmented area of undeveloped habitat that extends to the east and northeast. The 500-foot Study Area does not represent a regional migration corridor for terrestrial wildlife as defined above. The large, unfragmented area the 500-foot Study Area is a part of is designated as a "core biological area" in the San Diego County MSCP Subregional Plan (County of San Diego 1998). Although 500-foot Study Area is intersected by roadways, such as Alta Road, and bordered by development in the northern and central portions, it is primarily contiguous with the "core biological area" within the San Diego National Wildlife Refuge Otay-Sweetwater Unit and the Bureau of Land Management's Otay Mountain Wilderness. Development south and southwest of the 500-foot Study Area limits terrestrial wildlife movement in those directions.

The 500-foot Study Area is part of the Pacific Flyway, a major north/south migration route for birds that travel between North and South America. Otay Lake occurs just north of the northern terminus of the proposed pipeline, and it serves as a migrant stopover location, providing food and water to wildlife. Many avian species may pass through the 500-foot Study Area during migration and/or may use this area as migratory stopover habitat.

# CHAPTER 4.0
# IMPACT ANALYSIS

Impacts to biological resources may occur as a result of full implementation of the Proposed Project. Biological resources may be either directly or indirectly impacted by activities associated with construction and operation of the Project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These various types of impacts are defined below.

> Direct: Direct impacts are caused by a project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact.
>
> Indirect: As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities.
>
> Permanent: All impacts that result in the irreversible removal or loss of biological resources are considered permanent.
>
> Temporary: Any impacts considered to have reversible impacts on biological resources can be viewed as temporary.

Permanent direct impacts to biological resources would occur from construction and would include direct losses to potential jurisdictional waters, wetlands, and special-status species; and diverting natural surface water flows. Direct impacts could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts to plants could include crushing of adult plants, bulbs, or seeds. Temporary direct impacts would result from temporary work areas required during construction. Potential permanent direct impacts during O&M activities include mortality of special-status wildlife and migratory birds by vehicle collisions.

Temporary and permanent indirect impacts would occur during construction and O&M activities, respectively. The extent of indirect impacts varies by species and biological resource. Potential indirect impacts that may result from the Proposed Project include the following.

- *Habitat fragmentation:* Fragmented, smaller areas of habitat usually contain fewer species, have proportionally larger perimeters (making them more vulnerable to edge effects), are more likely to be biologically isolated from other habitat areas, and tend to be more vulnerable to adverse stochastic (random) events.

- *Noise:* Higher ambient noise levels could result from development (construction and O&M), which could impact species that rely on sound to communicate (e.g., birds). Higher ambient noise levels could disturb species and/or cause direct habitat avoidance. The impact of noise on wildlife differs from species to species, and is dependent on the source of the noise (e.g., vehicle traffic versus blasting) and the decibel level, duration, and timing.

- *Changes in hydrology:* Changes in hydrology, runoff, and sedimentation could indirectly impact surface-water-dependent species. Increased runoff into habitat could result in increased erosion and rates of scouring, which could result in downstream habitat loss for some species. Runoff, sedimentation, and erosion could adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and exotic nonnatives) that would competitively displace the special-status species.

- *Exotic and predator species:* Nonnative plant and animal species have few natural predators or other ecological controls on their population sizes, and they often thrive in disturbed habitats. Nonnative species may aggressively outcompete native species or otherwise harm sensitive species. Additionally, developed areas could harbor human commensal species, such as ravens, which may increase predation rates of native species.

- *Lighting:* Artificial night lighting could impact habitat value for some species, particularly for nocturnal species, through potential modification of predation rates, obscuring of lunar cycles, and/or causing direct habitat avoidance. Nighttime lighting could also disturb diurnal species roosting in adjacent habitat.

- *Fugitive dust:* Construction and O&M-generated fugitive dust could adversely impact plants by reducing the rates of metabolic processes such as photosynthesis and respiration.

The Proposed Project is subject to both federal and state environmental review requirements because the Proposed Project requires issuance of a Presidential Permit by the DOS and approval of the expenditure of public funds by the District. Project documentation, therefore, has been prepared in compliance with both NEPA and CEQA. For purposes of this chapter, significant determinations are made based on thresholds of significance defined in Appendix G of the CEQA Guidelines. A biological resources impact is considered significant if implementation of the project alternatives would do any of the following:

- **Issue 1**: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW and USFWS.

- **Issue 2:** Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) or any state-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

- **Issue 3**: 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 CDFW or USFWS.

- **Issue 4:** 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.

- **Issue 5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- **Issue 6:** Conflict with the provisions of an adopted HCP; NCCP; or other approved local, regional, state, or federal regulations, policies, ordinances, or plans.

## 4.1 CONSTRUCTION IMPACTS

Construction impacts in this section are broken down into three groups: Area Common to All Alternatives, Alternative 1 unique area, Alternative 2 unique area, and Alternative 3 unique area. The Area Common to All Alternatives includes the common pipeline segment shared by all three alignment alternatives and comprises roughly the northern half of the entire pipeline route, starting at approximately 550 feet east of where the alignments would cross an existing SDG&E 24-inch gas pipeline, continuing northwesterly to Roll Reservoir (Figures 1-2 and 1-3). The Area Common to All Alternatives also includes the metering station, potential pump station, disinfection facility, outfall structure, and the first approximately 500 feet of pipeline that heads north of the U.S./Mexico border. The disinfection facility is proposed at one of four potential locations along the conveyance pipeline alignment alternatives. To be conservative, all four potential locations are included in the analysis of the Area Common to All Alternatives. The areas unique to Alternative Alignment 1, Alternative Alignment 2, and Alternative Alignment 3 represent the unique pipeline segment paths at the southern portion of the Proposed Project (Figures 1-2 and 1-3).

### 4.1.1 Area Common to All Alternatives

The majority of construction impacts within the Area Common to All Alternatives are temporary. The "temporary impact area" is associated with the pipeline corridor (Figure 1-3). Permanent impacts will occur at the metering station, potential pump station, disinfection facility, outfall structure, and future Lone Star Road, defined herein as the "permanent impact area."

#### 4.1.1.1 Vegetation Communities (Issue 1)

This section analyzes direct and indirect impacts from construction-related activities in the Area Common to All Alternatives as they relate to Issue 1: riparian habitat or other sensitive natural communities. The majority of direct impacts from construction within the Area Common to All Alternatives would occur in existing paved and/or dirt roads. Most impacts to sensitive habitat would occur within the section of the pipeline coincident with future Lone Star Road.

Direct Impacts

Construction-related activities would result in permanent and temporary removal of vegetation communities (Tables 4-1 through 4-4; Figure 3-1). Permanent and temporary removal of

## Table 4-1
## Area Common to All Alternatives – Permanent Direct Impacts to Vegetation Communities and Other Cover Types

| Vegetation Communities and Other Cover Types | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2[2] | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[1] |
|---|---|---|---|---|---|---|---|
| ***Riparian and Wetland*** | | | | | | | |
| Alkali Seep | 0.16 | | | | | | ***0.16*** |
| Freshwater Marsh | | | | | | | ***0.00*** |
| Freshwater Seep | | | | | | | ***0.00*** |
| Mulefat Scrub | | | | | | | ***0.00*** |
| Road Pools | | | | | | | ***0.00*** |
| Southern Arroyo Willow Riparian Forest | | | | | | | ***0.00*** |
| Southern Willow Scrub | | | | | | | ***0.00*** |
| Tamarisk Scrub | <0.01 | | *0.14* | | | | ***0.15*** |
| Vernal Pools | | | | | | | ***0.00*** |
| *Total Riparian and Wetland* | *0.16* | *0.00* | *0.14* | *0.00* | *0.00* | *0.00* | ***0.30*** |
| ***Upland*** | | | | | | | |
| Diegan Coastal Sage Scrub | 0.47 | 0.22 | *0.37* | | 0.01 | | ***1.07*** |
| Native Grassland | | | | | | | ***0.00*** |
| Nonnative Grassland | 7.17 | | *0.09* | | 0.94 | | ***8.20*** |
| Southern Mixed Chaparral | | | | | | | ***0.00*** |
| *Total Upland* | 7.65 | 0.22 | 0.46 | 0.00 | 0.95 | 0.00 | **9.27** |
| ***Other Cover Types*** | | | | | | | |
| Disturbed Habitat | 0.35 | 0.12 | 0.29 | 0.92 | 0.10 | | ***1.79*** |
| Eucalyptus Woodland | | | | | | | ***0.00*** |
| Urban/Developed | 0.51 | 0.56 | | | | | ***1.07*** |
| *Total Other Cover Types* | *0.86* | *0.68* | *0.29* | *0.92* | *0.10* | *0.00* | ***2.85*** |
| **Total[1]** | **8.67** | **0.89** | **0.89** | **0.92** | **1.05** | **0.00** | ***12.43*** |

[1] Values may not sum due to rounding after summation.
[2] Potential Disinfection Facility Site 2 straddles the pipeline alignment resulting in overlap that defaults to permanent impact for the facility. In the scenario where that facility is not used, there will be temporary impacts for that area instead of permanent impacts.

## Table 4-2
## Permanent Direct Impacts to Vegetation Communities and Other Cover Types by Alternative

| Vegetation Communities and Other Cover Types | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total*[1] | Area Unique to Alternative 2 | *Alternative 2 Total*[1] | Area Unique to Alternative 3 | *Alternative 3 Total*[1] |
|---|---|---|---|---|---|---|---|
| ***Riparian and Wetland*** | | | | | | | |
| Alkali Seep | 0.16 | - | *0.16* | - | *0.16* | - | *0.16* |
| Freshwater Marsh | - | - | - | - | - | - | - |
| Freshwater Seep | - | - | - | - | - | - | - |
| Mulefat Scrub | - | - | - | - | - | - | - |
| Road Pools | - | - | - | - | - | - | - |
| Southern Arroyo Willow Riparian Forest | - | - | - | - | - | - | - |
| Southern Willow Scrub | - | - | - | - | - | - | - |
| Tamarisk Scrub | 0.15 | - | *0.15* | - | *0.15* | - | *0.15* |
| Vernal Pools | - | - | - | - | - | - | - |
| *Total Riparian and Wetland* | *0.30* | - | *0.30* | - | *0.30* | - | *0.30* |
| ***Upland*** | | | | | | | |
| Diegan Coastal Sage Scrub | 1.07 | - | *1.07* | - | *1.07* | - | *1.07* |
| Native Grassland | - | - | - | - | - | - | - |
| Nonnative Grassland | 8.20 | - | *8.20* | - | *8.20* | - | *8.20* |
| Southern Mixed Chaparral | - | - | - | - | - | - | - |
| *Total Upland* | *9.27* | - | *9.27* | - | *9.27* | - | *9.27* |
| ***Other Cover Types*** | | | | | | | |
| Disturbed Habitat | 1.79 | - | *1.79* | - | *1.79* | - | *1.79* |
| Eucalyptus Woodland | - | - | - | - | - | - | - |
| Urban/Developed | 1.07 | - | *1.07* | - | *1.07* | - | *1.07* |
| *Total Other Cover Types* | *2.85* | - | *2.85* | - | *2.85* | - | *2.85* |
| **Total**[1] | **12.42** | **-** | ***12.42*** | **-** | ***12.42*** | **-** | ***12.42*** |

[1] Values may not sum due to rounding after summation.

## Table 4-3
## Area Common to All Alternatives – Temporary Direct Impacts to Vegetation Communities and Other Cover Types

| Vegetation Communities and Other Cover Types | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2[2] | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[1] |
|---|---|---|---|---|---|---|---|
| ***Riparian and Wetland*** | | | | | | | |
| Alkali Seep | 0.23 | | | | | | *0.23* |
| Freshwater Marsh | | | | | | | *0.00* |
| Freshwater Seep | <0.01 | | | | | | <0.01 |
| Mulefat Scrub | | | | | | | *0.00* |
| Road Pools | <0.01 | | | | | | <0.01 |
| Southern Arroyo Willow Riparian Forest | | | | | | | *0.00* |
| Southern Willow Scrub | 0.03 | | | | | | *0.03* |
| Tamarisk Scrub | 0.12 | | | | | | *0.12* |
| Vernal Pools | | | | | | | *0.00* |
| *Total Riparian and Wetland* | *0.38* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.38* |
| ***Upland*** | | | | | | | |
| Diegan Coastal Sage Scrub | 2.06 | | | | | *0.11* | *2.18* |
| Native Grassland | 0.00 | | | | | | *0.00* |
| Nonnative Grassland | 9.34 | | | | | | *9.34* |
| Southern Mixed Chaparral | | | | | | 0.00 | *0.00* |
| *Total Upland* | *11.41* | *0.00* | *0.00* | *0.00* | *0.00* | *0.11* | *11.52* |
| ***Other Cover Types*** | | | | | | | |
| Disturbed Habitat | 3.64 | | | | | | *3.64* |
| Eucalyptus Woodland | | | | | | | *0.00* |
| Urban/Developed | 12.98 | | | | | 0.25 | *13.23* |
| *Total Other Cover Types* | *16.63* | *0.00* | *0.00* | *0.00* | *0.00* | *0.25* | *16.88* |
| **Total[1]** | **28.42** | **0.00** | **0.00** | **0.00** | **0.00** | **0.37** | ***28.78*** |

[1] Values may not sum due to rounding after summation.
[2] Potential Disinfection Facility Site 2 straddles the pipeline alignment resulting in overlap that defaults to permanent impact for the facility. In the scenario where that facility is not used, there will be temporary impacts for that area instead of permanent.

## Table 4-4
## Temporary Direct Impacts to Vegetation Communities and Other Cover Types by Alternative

| Vegetation Communities and Other Cover Types | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total*[1] | Area Unique to Alternative 2 | *Alternative 2 Total*[1] | Area Unique to Alternative 3 | *Alternative 3 Total*[1] |
|---|---|---|---|---|---|---|---|
| ***Riparian and Wetland*** | | | | | | | |
| Alkali Seep | 0.23 | - | *0.23* | - | *0.23* | - | *0.23* |
| Freshwater Marsh | - | - | - | - | - | - | - |
| Freshwater Seep | - | - | - | - | - | 0.45 | *0.45* |
| Mulefat Scrub | - | - | - | - | - | - | - |
| Road Pools | 0.002 | 0.01 | *0.01* | - | <0.01 | - | <0.01 |
| Southern Arroyo Willow Riparian Forest | - | - | - | - | <0.01 | - | <0.01 |
| Southern Willow Scrub | 0.03 | - | *0.03* | - | *0.03* | - | *0.03* |
| Tamarisk Scrub | 0.12 | - | *0.12* | - | *0.12* | - | *0.12* |
| Vernal Pools | - | - | - | - | - | - | - |
| *Total Riparian and Wetland* | *0.38* | *0.01* | *0.40* | - | *0.38* | *0.45* | *0.83* |
| ***Upland*** | | | | | | | |
| Diegan Coastal Sage Scrub | 2.18 | 1.55 | *3.72* | 1.63 | *3.81* | 2.03 | *4.21* |
| Native Grassland | - | 1.03 | *1.03* | 1.61 | *1.61* | 1.61 | *1.61* |
| Nonnative Grassland | 9.34 | 2.58 | *11.92* | 1.35 | *10.70* | 1.34 | *10.68* |
| Southern Mixed Chaparral | - | - | - | - | - | - | - |
| *Total Upland* | *11.52* | *5.15* | *16.67* | *4.60* | *16.12* | *4.98* | *16.50* |
| ***Other Cover Types*** | | | | | | | |
| Disturbed Habitat | 3.64 | 1.08 | *4.72* | 0.96 | *4.60* | 0.13 | *3.77* |
| Eucalyptus Woodland | - | - | - | - | - | - | - |
| Urban/Developed | 13.23 | 0.00 | *13.23* | - | *13.23* | - | *13.23* |
| *Total Other Cover Types* | *16.88* | *1.08* | *17.96* | *0.96* | *17.83* | *0.13* | *17.00* |
| **Total**[1] | **28.78** | **6.24** | ***35.02*** | **5.55** | ***34.33*** | **5.56** | ***34.33*** |

[1] Values may not sum due to rounding after summation.

vegetation would result from grading, trenching, and installation of the pipeline and additional project infrastructure. The majority of impacts to vegetation communities are temporary.

Indirect Impacts

Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment. Ground disturbance could promote the establishment and spread of opportunistic nonnative plants. Additionally, wildfires caused by construction are rare but may occur, and nonnative plant species often frequent recently burned areas. The potential spread of nonnative species into the surrounding vegetation communities would be considered a permanent indirect impact.

Grading and other construction activities associated with construction have the potential to create airborne dust, sedimentation, and erosion. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities. Construction activities, including grading and vegetation clearing, may result in increased erosion and sedimentation. Unauthorized access outside of the impact area by construction workers may cause damage through trampling of plant species within adjacent vegetation communities. Construction impacts from dust, sedimentation, erosion, and unauthorized access have the potential to degrade the quality of surrounding vegetation communities. These would be considered a temporary indirect impact.

Significance Determination

Other cover types are not regulated or protected under any federal, state, or local law or regulation and therefore are not considered sensitive. Upland and riparian vegetation communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for many special-status species. Additionally, sensitive riparian and wetland vegetation communities impacted include potential jurisdictional waters (i.e., regulated under Section 404 of the CWA and Porter-Cologne), such as tamarisk scrub and southern willow scrub. The permanent removal and indirect impacts to these sensitive vegetation communities would be considered significant. Potential construction-related direct and indirect impacts to sensitive communities would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.1.2 Jurisdictional Waters and Wetlands (Issue 2)

This section analyzes direct and indirect impacts from construction-related activities in the Area Common to All Alternatives as they relate to Issue 2: federally protected wetlands as defined by Section 404 of the CWA or any state-protected jurisdictional areas.

Direct Impacts

Construction would result in varying levels of temporary direct impacts to potential jurisdictional waters of the U.S. and state under the purview of USACE, RWQCB, and CDFW (Table 4-5 and Figure 3-2). No permanent direct impacts would occur to potential jurisdictional waters of the U.S. and state. Temporary impacts to jurisdictional waters and wetlands would result from the pipeline crossing under jurisdictional features. These features would be temporarily disturbed during grading, trenching, and installation of the pipeline.

Indirect Impacts

Off-site erosion and sedimentation resulting from grading activities associated with construction of the proposed pipeline have the potential to result in temporary indirect impacts to jurisdictional waters and wetlands. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities and has the potential to result in temporary indirect impacts to jurisdictional waters and wetlands. These impacts have the potential to degrade the quality of adjacent jurisdictional waters and wetlands. These would be considered a temporary indirect impact.

Significance Determination

The permanent removal and adverse indirect impacts to federally protected wetlands or to any state-protected jurisdictional wetlands through direct removal, filling, hydrological interruption, or other means would be considered significant. Potential construction-related direct and indirect impacts to jurisdictional waters and wetlands would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

## Table 4-5
## Areas Common to All Alternatives – Temporary Direct Impacts to Jurisdictional Waters of the U.S. and State[1]

| Type of Potential Jurisdictional Waters | Type of Habitat | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2[3] | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | Total[2] |
|---|---|---|---|---|---|---|---|---|
| **Jurisdictional Waters of the U.S. and State** | | | | | | | | |
| Wetland | Southern Willow Scrub | 0.035 | - | - | - | - | - | 0.035 |
| Other Waters (Drainage Features [OHWM]) | Culvert, Concrete Lined Channel | 0.043 | - | - | - | - | 0.033 | 0.076 |
| Other Waters (Drainage Features [OHWM])/ Nonvegetated Channel | Nonvegetated Channel | 0.002 | - | - | - | - | - | 0.002 |
| *Subtotal Potential Jurisdictional Waters of the U.S. and State* | | *0.080* | *0.000* | *0.000* | *0.000* | *0.000* | *0.033* | *0.113* |
| **Jurisdictional Waters Exclusively CDFW** | | | | | | | | |
| Riparian | Tamarisk Scrub | - | - | - | - | - | <0.001 | <0.001 |
| *Subtotal Potential Jurisdictional Waters of the State* | | - | - | - | - | - | <0.001 | <0.001 |
| ***Total Potential Jurisdictional Waters[2]*** | | ***0.080*** | ***0.000*** | ***0.000*** | ***0.000*** | ***0.000*** | ***0.034*** | ***0.114*** |

[1] There are no permanent direct impact to jurisdictional waters of the U.S. and state.
[2] There are no temporary direct impacts to jurisdictional waters of the U.S. and state in the unique areas of Alternative 1, 2, and 3. Values may not sum due to rounding after summation.
[3] Potential Disinfection Facility Site 2 straddles the pipeline alignment resulting in overlap that defaults to permanent impact for the facility. In the scenario where that facility is not used, there will be temporary impacts for that area instead of permanent.

#### 4.1.1.3 Special-status Plant Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Area Common to All Alternatives as they relate to Issue 3: plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. The majority of direct impacts from construction within the Area Common to All Alternatives would occur in existing paved and/or dirt roads. Most impacts to plant species would occur within the section of the pipeline coincident with future Lone Star Road.

Direct and indirect impacts to the one federally listed and state-listed plant species, Otay tarplant, detected during botanical surveys are discussed separately from nonlisted special-status plant species.

<u>Federally Listed and State-Listed Plant Species</u>

*Direct Impacts*

The Otay tarplant individuals detected during surveys would not be directly impacted by construction activities within the Area Common to All Alternatives. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to Otay tarplant critical habitat (Tables 4-6 and 4-7; Figure 3-3). Permanent and temporary removal of Otay tarplant critical habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure.

*Indirect Impacts*

Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment. Ground disturbance could promote the establishment and spread of opportunistic nonnative plants. Additionally, wildfires caused by construction are rare but may occur, and nonnative plant species often frequent recently burned areas. The potential spread of nonnative species into the surrounding habitat, including critical habitat, for Otay tarplant would be considered a permanent indirect impact.

Grading and other construction activities associated with construction have the potential to create airborne dust, sedimentation, and erosion. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities.

## Table 4-6
## Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Critical Habitat (Acres)

| Impact Type[1] | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2 | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[2] |
|---|---|---|---|---|---|---|---|
| Otay tarplant | | | | | | | |
| Permanent | 3.88 | - | - | - | - | - | *3.88* |
| Temporary | 6.08 | - | - | - | - | - | *6.08* |
| Riverside fairy shrimp | | | | | | | |
| Permanent | - | - | - | - | - | - | *0.00* |
| Temporary | - | - | - | - | - | - | *0.00* |
| San Diego fairy shrimp | | | | | | | |
| Permanent | 1.05 | - | - | - | 0.16 | - | *1.21* |
| Temporary | 2.64 | - | - | - | - | - | *2.64* |
| Quino checkerspot butterfly | | | | | | | |
| Permanent | | 0.03 | - | - | 1.05 | - | *1.09* |
| Temporary | 1.01 | - | - | - | - | - | *1.01* |
| Coastal California gnatcatcher | | | | | | | |
| Permanent | - | - | - | - | - | - | *0.00* |
| Temporary | 0.73 | - | - | - | - | - | *0.73* |

[1] Critical habitat for species not listed is not directly impacted by the Proposed Project.
[2] Values may not sum due to rounding after summation.

## Table 4-7
## Permanent and Temporary Direct Impacts to Critical Habitat by Alternative (Acres)

| Impact Type[1] | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total*[2] | Area Unique to Alternative 2 | *Alternative 2 Total*[2] | Area Unique to Alternative 3 | *Alternative 3 Total*[2] |
|---|---|---|---|---|---|---|---|
| Otay tarplant | | | | | | | |
| Permanent | 3.88 | - | *3.88* | - | *3.88* | - | *3.88* |
| Temporary | 6.08 | - | *6.08* | - | *6.08* | - | *6.08* |
| Riverside fairy shrimp | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | - | 0.35 | *0.35* | 1.11 | *1.11* | 1.75 | *1.75* |
| San Diego fairy shrimp | | | | | | | |
| Permanent | 1.21 | - | *1.21* | - | *1.21* | - | *1.21* |
| Temporary | 2.64 | 4.6 | *7.24* | 4.41 | *7.05* | 4.41 | *7.05* |
| Quino checkerspot butterfly | | | | | | | |
| Permanent | 1.09 | - | *1.09* | - | *1.09* | - | *1.09* |
| Temporary | 1.01 | 5.61 | *6.62* | 5.5 | *6.51* | 5.51 | *6.52* |
| Coastal California gnatcatcher | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | 0.73 | - | *0.73* | - | *0.73* | - | *0.73* |

[1] Critical habitat for species not listed is not directly impacted by the Proposed Project.
[2] Values may not sum due to rounding after summation.

Construction activities, including grading and vegetation clearing, may result in increased erosion and sedimentation. Construction impacts from dust, sedimentation, erosion, and unauthorized access have the potential to impact Otay tarplant individuals in adjacent areas and degrade the quality of adjacent habitat, including critical habitat, for Otay tarplant. These would be considered a temporary indirect impact.

*Significance Determination*

Potential construction-related direct and indirect impacts to Otay tarplant would be considered significant. Potential construction-related direct and indirect impacts to Otay tarplant would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

Nonlisted Special-status Plant Species

Direct and indirect impacts to the 12 nonlisted special-status plant species detected during botanical surveys are discussed as a group because impacts would be similar among plant species.

*Direct Impacts*

Four of the 12 nonlisted special-status plant species detected during rare plant surveys are within the permanent or temporary direct impact area. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to San Diego sunflower, San Diego marsh-elder, small-flowered microseris, and Munz's sage (Tables 4-8 and 4-9; Figure 3-3). Permanent and temporary removal of these nonlisted special-status plant species would result from grading, trenching, and installation of the pipeline and additional project infrastructure.

*Indirect Impacts*

Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment. Ground disturbance could promote the establishment and spread of opportunistic nonnative plants. Additionally, wildfires caused by construction are rare but may occur, and nonnative plant species often frequent recently burned areas. The potential spread of nonnative species into the surrounding habitat for nonlisted special-status plant species would be considered a permanent indirect impact.

## Table 4-8
## Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Nonlisted Special-status Plant Species[1]

| Impact Type[2] | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2 | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[3] |
|---|---|---|---|---|---|---|---|
| San Diego sunflower | | | | | | | |
| Permanent | 15 | - | - | - | - | - | *15* |
| Temporary | 70 | - | - | - | - | - | *70* |
| Coast barrel cactus | | | | | | | |
| Permanent | - | - | - | - | - | - | *0* |
| Temporary | - | - | - | - | - | - | *0* |
| San Diego marsh-elder | | | | | | | |
| Permanent | 15 | - | - | - | - | - | *15* |
| Temporary | - | - | - | - | - | - | *0* |
| Small-flowered microseris | | | | | | | |
| Permanent | - | - | - | - | 215 | - | 215 |
| Temporary | 100,070 | - | - | - | - | - | 100,070 |
| Munz's sage | | | | | | | |
| Permanent | - | - | - | - | - | - | *0* |
| Temporary | 5 | - | - | - | - | - | *5* |

[1] Numbers represent estimated number of individual plants impacted.
[2] Species not listed are not directly impacted by the Proposed Project.
[3] Values may not sum due to rounding after summation.

## Table 4-9
## Permanent and Temporary Direct Impacts to Nonlisted Special-status Plant Species by Alternative[1]

| Impact Type[2] | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total* | Area Unique to Alternative 2 | *Alternative 2 Total* | Area Unique to Alternative 3 | *Alternative 3 Total* |
|---|---|---|---|---|---|---|---|
| San Diego sunflower | | | | | | | |
| Permanent | 15 | - | *15* | - | *15* | - | *15* |
| Temporary | 70 | - | *70* | - | *70* | - | *70* |
| Coast barrel cactus | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | - | - | - | 19 | *19* | 19 | *19* |
| San Diego marsh-elder | | | | | | | |
| Permanent | 15 | - | *15* | - | *15* | - | *15* |
| Temporary | - | - | - | - | - | - | - |
| Small-flowered microseris | | | | | | | |
| Permanent | 215 | - | 215 | - | 215 | - | 215 |
| Temporary | 100,070 | - | 100,070 | 100 | 100,170 | - | 100,070 |
| Munz's sage | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | 5 | - | *5* | - | *5* | - | *5* |

[1] Numbers represent estimated number of individual plants impacted.
[2] Species not listed are not directly impacted by the Proposed Project.

Grading and other construction activities associated with construction have the potential to create airborne dust, sedimentation, and erosion. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities. Construction activities, including grading and vegetation clearing, may result in increased erosion and sedimentation. Construction impacts from dust, sedimentation, erosion, and unauthorized access have the potential to impact nonlisted special-status plant species in adjacent areas and degrade the quality of adjacent habitat for nonlisted special-status plant species. These would be considered a temporary indirect impact.

*Significance Determination*

Potential construction-related direct and indirect impacts to nonlisted special-status plant species would be considered significant. Potential construction-related indirect impacts to nonlisted special-status plant species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.1.4 Special-status Wildlife Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Area Common to All Alternatives as they relate to Issue 3: wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. The majority of direct impacts from construction within the Area Common to All Alternatives would occur in existing paved and/or dirt roads. Most impacts to wildlife species habitat would occur within the section of the pipeline coincident with future Lone Star Road.

Direct and indirect impacts are discussed for each federally listed and state-listed wildlife species separately from nonlisted special-status wildlife species.

<u>Federally Listed and State-Listed Wildlife Species</u>

*Direct Impacts*

**San Diego Fairy Shrimp**

No SDFS were detected during surveys. Historically, this species has been detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. No direct impacts would occur to road pools or vernal pools. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to SDFS critical habitat in the

southeast portion of the Area Common to All Alternatives (Tables 4-6 and 4-7; Figure 3-4). Permanent and temporary removal of SDFS critical habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure.

#### Riverside Fairy Shrimp

RFS was detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. No critical habitat is present within the Area Common to All Alternatives. No direct impacts would occur to road pools or vernal pools or RFS critical habitat.

#### Quino Checkerspot Butterfly

QCB suitable habitat occurs throughout the Proposed Project. QCB critical habitat occurs in the northern and southern ends of the Area Common to All Alternatives. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to QCB suitable habitat and critical habitat (Tables 4-6, 4-7, 4-10, and 4-11; Figure 3-5). Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Coastal California gnatcatcher

CAGN suitable habitat occurs in the northern half of the Area Common to All Alternatives. CAGN critical habitat occurs in the north-central portion of the Area Common to All Alternatives. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to CAGN suitable habitat and critical habitat (Tables 4-6, 4-7, 4-10, and 4-11; Figure 3-6). Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. The CAGN territories are in the northern portion of the Proposed Project where construction will be occurring within the existing paved and/or dirt roads. Collisions are expected to be minimal since none of the three CAGN territories identified during surveys are within the temporary or permanent impact area in the Area Common to All Alternatives. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment.

## Table 4-10
## Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Federally Listed and State-Listed Wildlife Species Suitable Habitat[1]

| Impact Type | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2[2] | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[3] |
|---|---|---|---|---|---|---|---|
| Quino checkerspot butterfly | | | | | | | |
| Permanent | 0.48 | *0.16* | - | 0.58 | *0.00* | - | *1.22* |
| Temporary | 1.66 | - | - | - | - | 0.35 | *2.01* |
| Coastal California gnatcatcher | | | | | | | |
| Permanent | 0.48 | 0.16 | - | - | - | - | *0.64* |
| Temporary | 1.02 | - | - | - | - | 0.26 | *1.28* |
| Least Bell's vireo | | | | | | | |
| Permanent | - | - | *0.58* | - | - | - | *0.58* |
| Temporary | 0.64 | - | - | - | - | 0.09 | *0.73* |

[1] Numbers represent acres of suitable habitat.
[2] Potential Disinfection Facility Site 2 straddles the pipeline alignment resulting in overlap that defaults to permanent impact for the facility. In the scenario where that facility is not used, there will be temporary impacts for that area instead of permanent.
[3] Values may not sum due to rounding after summation.

**Table 4-11**
**Permanent and Temporary Direct Impacts to Federally Listed and State-Listed Wildlife Species Suitable Habitat by Alternative[1]**

| Impact Type | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total[2]* | Area Unique to Alternative 2 | *Alternative 2 Total[2]* | Area Unique to Alternative 3 | *Alternative 3 Total[2]* |
|---|---|---|---|---|---|---|---|
| Quino checkerspot butterfly | | | | | | | |
| Permanent | 0.73 | - | *0.73* | - | *0.73* | - | *0.73* |
| Temporary | 2.19 | 1.05 | *3.24* | 1.73 | *3.92* | 1.41 | *3.60* |
| Coastal California Gnatcatcher | | | | | | | |
| Permanent | 0.64 | - | *0.64* | - | *0.64* | - | *0.64* |
| Temporary | 1.46 | 1.05 | *2.51* | 1.73 | *3.19* | 1.41 | *2.87* |
| Least Bell's vireo | | | | | | | |
| Permanent | 0.58 | - | *0.58* | - | *0.58* | - | *0.58* |
| Temporary | 0.73 | - | *0.73* | - | *0.73* | - | *0.73* |

[1] Numbers represent acres of suitable habitat.
[2] Values may not sum due to rounding after summation.

#### Least Bell's Vireo

LBV suitable habitat occurs in the northern end of the Area Common to All Alternatives. Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to LBV suitable habitat (Tables 4-10 and 4-11; Figure 3-7). Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment.

Three of the four LBV territories identified during surveys are outside the temporary and permanent impact Area Common to All Alternatives. Habitat within the LBV territory identified near Roll Reservoir would be temporarily impacted during construction and potentially permanently impacted by the location of the disinfection facility.

*Indirect Impacts*

Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment. Ground disturbance could promote the establishment and spread of opportunistic nonnative plants. Additionally, wildfires caused by construction are rare but may occur, and nonnative plant species often frequent recently burned areas. The potential spread of nonnative species into the surrounding habitat for RFS, SDFS, QCB, CAGN, and LBV habitat, including critical habitat where applicable, would be considered a permanent indirect impact.

Grading and other construction activities associated with construction have the potential to create airborne dust, sedimentation, and erosion. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities. Construction activities, including grading and vegetation clearing, may result in increased erosion and sedimentation. Avian species may also be impacted by increased noise levels during construction. These indirect impacts have the potential to degrade RFS, SDFS, QCB, CAGN, and LBV habitat and alter species behavior. These would be considered a temporary indirect impact.

RFS and SDFS may also be indirectly impacted by changes in the natural micro-topography as a result of construction that would alter the natural hydrological regime, and may result in increased runoff, erosion, and sedimentation, and contamination of vernal pools. The hydrology

of vernal pools is supported by both surface flows within a pool's topographic watershed (e.g., the surface area in which water drains into a vernal pool) and subsurface flows that may extend beyond the surface watershed. Surface and subsurface lateral flows between vernal pools and the surrounding uplands influence the onset and level of inundation, and the seasonal drying of pools (Hanes and Stromberg 1998). Modifications to the hydrology of vernal pools could also alter the distribution of other vernal pool flora and fauna that are influenced by the length and frequency of water inundation (Bauder 2000). Altering the timing and duration of ponding could negatively impact the ability of RFS or SDFS to grow and reproduce, since their phenology is dependent on such factors (Hathaway and Simovich 1996). These would be considered a temporary indirect impact.

*Significance Determination*

Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, CAGN, and LBV would be considered significant impacts. These impacts would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

Nonlisted Special-status Wildlife Species

Direct and indirect impacts to the nonlisted special-status wildlife species detected are discussed by taxa because impacts would be similar between species.

*Direct Impacts*

**Reptiles**

Construction-related activities within the Area Common to All Alternatives would directly impact nonlisted special-status reptile species by the permanent and temporary removal of upland habitat, such as Diegan coastal sage scrub and nonnative grassland (Tables 4-1 through 4-4; Figure 3-1). Species detected that would be impacted by removal of upland habitat include red-diamond rattlesnake and Blainville's horned lizard. Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Avian Species

Construction-related activities within the Area Common to All Alternatives would result in permanent and temporary impacts to WBO suitable habitat (Tables 4-12 and 4-13; Figure 3-8). Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Occupied and active WBO burrows would not be directly impacted by construction activities (Table 4-7; Figure 3-8).

Construction-related activities within the Area Common to All Alternatives would directly impact other nonlisted special-status avian species by the permanent and temporary removal of riparian and wetland habitat, such as alkali seep, southern willow scrub, and tamarisk scrub, and upland habitat, such as Diegan coastal sage scrub and nonnative grassland (Tables 4-1 through 4-4; Figure 3-1). Species detected that would be impacted by removal of riparian and wetland habitat include yellow-breasted chat and yellow warbler. Species detected that would be impacted by removal of upland habitat include southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, and loggerhead shrike. Species detected that would be impacted by removal of both riparian and wetland habitat and upland habitat include Cooper's hawk and white-tailed kite. A variety of other avian species protected under the MBTA (see Section 3.5.4, Migratory Birds), but not considered rare, threatened, or endangered by local, state, or federal laws or regulations, would also be impacted by removal of these vegetation communities.

#### Mammal Species

Construction-related activities within the Area Common to All Alternatives would directly impact San Diego black-tailed jackrabbit by the permanent and temporary removal of upland habitat, such as Diegan coastal sage scrub and nonnative grassland (Tables 4-1 through 4-4; Figure 3-1). Permanent and temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

**Table 4-12**
**Areas Common to All Alternatives – Permanent and Temporary Direct Impacts to Western Burrowing Owl**

| Impact Type | Pipeline Alignment | Potential Disinfection Facility Site 1 | Potential Disinfection Facility Site 2 | Potential Disinfection Facility Site 3 | Potential Disinfection Facility Site 4, Metering Station, and Pump Station | Outfall Structure | *Total*[2] |
|---|---|---|---|---|---|---|---|
| Suitable Habitat[1] | | | | | | | |
| Permanent | 7.59 | - | - | 0.90 | *1.05* | - | *9.55* |
| Temporary | 10.77 | - | - | - | - | - | *10.77* |
| Occupied or Active Burrows | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | - | - | - | - | - | - | - |

[1] Numbers represent acres of suitable habitat.
[2] Values may not sum due to rounding after summation.

**Table 4-13**
**Permanent and Temporary Direct Impacts to Western Burrowing Owl by Alternative**

| Impact Type | Area Common to All Alternatives | Area Unique to Alternative 1 | *Alternative 1 Total*[2] | Area Unique to Alternative 2 | *Alternative 2 Total*[2] | Area Unique to Alternative 3 | *Alternative 3 Total*[2] |
|---|---|---|---|---|---|---|---|
| Suitable Habitat[1] | | | | | | | |
| Permanent | 9.55 | - | *9.55* | - | *9.55* | - | *9.55* |
| Temporary | 10.77 | 4.64 | *15.41* | 3.57 | *14.34* | 3.63 | *14.40* |
| Occupied or Active Burrows | | | | | | | |
| Permanent | - | - | - | - | - | - | - |
| Temporary | - | - | - | - | - | - | - |

[1] Numbers represent acres of suitable habitat.
[2] Values may not sum due to rounding after summation.

*Indirect Impacts*

Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment. Ground disturbance could promote the establishment and spread of opportunistic nonnative plants. Additionally, wildfires caused by construction are rare but may occur, and nonnative plant species often frequent recently burned areas. The potential spread of nonnative species into the surrounding habitat for nonlisted special-status wildlife species would be considered a permanent indirect impact.

Grading and other construction activities associated with construction have the potential to create airborne dust, sedimentation, and erosion. Airborne dust may result from construction vehicle travel on dirt access roads, grading, trenching, and other ground-disturbing activities. Construction activities, including grading and vegetation clearing, may result in increased erosion and sedimentation. Avian species may also be impacted by increased noise levels during construction. These indirect impacts have the potential to degrade nonlisted special-status wildlife species habitat and alter species behavior. These would be considered a temporary indirect impact.

*Significance Determination*

Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be considered significant. Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.1.5 Wildlife Corridors (Issue 4)

This section analyzes direct and indirect impacts from construction-related activities in the Area Common to All Alternatives as they relate to Issue 4: 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. The majority of direct impacts from construction within the Area Common to All Alternatives would occur in existing paved and/or dirt roads. Most impacts would occur within the section of the pipeline coincident with future Lone Star Road.

Direct Impacts

The Area Common to All Alternatives is used by a variety of wildlife species for local movement. The area is part of a core biological area rather than a regional corridor for terrestrial wildlife. The area does provide migratory stopover habitat within the Pacific flyway, a major north/south migration route for birds that travel between North and South America. Construction activities associated with the Area Common to All Alternatives would not result in the permanent or temporary installation of structures that would prevent wildlife (including terrestrial and avian) movement through the Proposed Project. The narrow (up to 200 feet wide) and linear work area that would be impacted during construction is not a large distance for terrestrial and avian species to cross.

Additionally, the pipeline would be constructed in segments and it is estimated that trenching distance would average approximately 120 feet per day. This would allow terrestrial wildlife to move throughout most of the Proposed Project impact area during construction. Approximately 12 construction workers would undertake construction of the proposed pipeline. Daily traffic trips are expected to be approximately 17 heavy truck trips for a two-way total of 34 trips per day (VRPA 2015). This would not prohibit terrestrial wildlife movement between habitats. Therefore, permanent and temporary impacts to wildlife corridors resulting from construction within the Area Common to All Alternatives are not expected.

Indirect Impacts

Indirect impacts to wildlife movement (including terrestrial and avian) may result during construction from increased human presence and construction-generated noise. These indirect impacts are expected to be minimal because only 12 construction workers would be working at an average trenching distance of approximately 120 feet per day. Therefore, no permanent or temporary indirect impacts to wildlife corridors resulting from construction within the Area Common to All Alternatives are expected.

Significance Determination

Impacts to wildlife corridors resulting from construction of the Area Common to All Alternatives are expected to be minimal and are not considered significant.

#### 4.1.1.6 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, state, or federal regulations, policies, ordinances, or plans (Issues 5 and 6)

The Proposed Project would be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The District is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. Therefore, no conflicts are expected with any approved regional, state, or federal regulations, policy, ordinance, or plan.

### 4.1.2 Alternative 1 – Unique Area

All direct impacts from construction within the Alternative 1 unique area are temporary. There are no permanent direct impacts. The "temporary impact area" is associated with the pipeline corridor (Figure 1-3).

#### 4.1.2.1 Vegetation Communities (Issue 1)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 1 unique area as they relate to Issue 1: riparian habitat or other sensitive natural communities. All direct impacts from construction within the Alternative 1 unique area would be temporary.

Direct Impacts

Construction-related activities would result in temporary removal of vegetation communities (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of vegetation would result from grading, trenching, and installation of the pipeline.

Indirect Impacts

Indirect impacts to vegetation communities within the Alternative 1 unique area are identical in nature to those described in Section 4.1.1.1 for the Area Common to All Alternatives.

Significance Determination

Other cover types are not regulated or protected under any federal, state, or local law or regulation and therefore are not considered sensitive. Upland and riparian vegetation

communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for many special-status species. The permanent removal and indirect impacts to these sensitive vegetation communities would be considered significant. Potential construction-related direct and indirect impacts to sensitive communities would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.2.2 Jurisdictional Waters and Wetlands (Issue 2)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 1 unique area as they relate to Issue 2: federally protected wetlands as defined by Section 404 of the CWA or any state-protected jurisdictional areas.

No jurisdictional waters of the U.S. and state occur within the Alternative 1 unique area or immediate vicinity of this area. Therefore, no direct or indirect impacts would occur to jurisdictional waters of the U.S. and state in the Alternative 1 unique area.

#### 4.1.2.3 Special-status Plant Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 1 unique area as they relate to Issue 3: plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts from construction within the Alternative 1 unique area would be temporary.

Direct and indirect impacts to the one federally listed and state-listed plant species, Otay tarplant, detected during botanical surveys are discussed separately from nonlisted special-status plant species.

<u>Federally Listed and State-Listed Plant Species</u>

No Otay tarplant was observed within the Alternative 1 unique area or immediate vicinity of this area. No critical habitat occurs for the species within the Alternative 1 unique area. Therefore, no direct or indirect impacts are anticipated to Otay tarplant in the Alternative 1 unique area.

Nonlisted Special-status Plant Species

Direct and indirect impacts to the 12 nonlisted special-status plant species detected during botanical surveys are discussed as a group because impacts would be similar between plant species.

*Direct Impacts*

None of the 12 nonlisted special-status plant species detected during rare plant surveys are known to occur within the Alternative 1 unique area. Therefore, no direct impacts are anticipated to occur.

*Indirect Impacts*

Indirect impacts within the Alternative 1 unique area are identical in nature to those described for nonlisted special-status plant species in Section 4.1.1.3 for the Area Common to All Alternatives. Indirect impacts would be limited to those nonlisted special-status plant species in proximity to the Alternative 1 unique area including coast barrel cactus, San Diego sunflower, San Diego County needlegrass, San Diego goldenstar, and Palmer's grappling hook.

*Significance Determination*

Potential construction-related indirect impacts to nonlisted special-status plant species would be considered significant. Potential construction-related indirect impacts to nonlisted special-status plant species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.2.4 Special-status Wildlife Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 1 unique area as they relate to Issue 3: wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts to habitat from construction within the Alternative 1 unique area would be temporary.

Direct and indirect impacts are discussed for each federally listed and state-listed wildlife species separately from nonlisted special-status wildlife species.

Federally Listed and State-Listed Wildlife Species

*Direct Impacts*

#### San Diego Fairy Shrimp

No SDFS were detected during surveys. Historically, this species has been detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. One unoccupied road pool would be temporarily impacted within the Alternative 1 unique area (Table 4-4; Figure 3-4). Construction-related activities within the Alternative 1 unique area would result in temporary impacts to SDFS critical habitat (Table 4-7; Figure 3-4). Temporary removal of SDFS critical habitat would result from grading, trenching, and installation of the pipeline.

#### Riverside Fairy Shrimp

RFS was detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. One unoccupied road pool would be temporarily impacted within the Alternative 1 unique area (Table 4-4; Figure 3-4). Construction-related activities within the Alternative 1 unique area would result in temporary impacts to RFS critical habitat (Table 4-7; Figure 3-4). Temporary impacts would result from grading, trenching, and installation of the pipeline.

#### Quino Checkerspot Butterfly

Construction-related activities within the Alternative 1 unique area would result in temporary impacts to QCB suitable habitat and critical habitat (Tables 4-7 and 4-11; Figure 3-5). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Coastal California Gnatcatcher

Construction-related activities within the Alternative 1 unique area would result in temporary impacts to CAGN suitable habitat (Table 4-11; Figure 3-6). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Collisions are expected to be minimal since all of the CAGN and/or territories were detected at the northern end of the Proposed Project. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment.

#### Least Bell's Vireo

No LBV suitable habitat occurs within the Alternative 1 unique area. Therefore, no direct impacts to LBV are expected to occur.

*Indirect Impacts*

Indirect impacts within the Alternative 1 unique area are identical in nature to those described for federally listed and state-listed species in Section 4.1.1.4 for the Area Common to All Alternatives. Indirect impacts would be limited to those federally listed and state-listed wildlife species in proximity to the Alternative 1 unique area, including, RFS, SDFS, QCB, and CAGN.

*Significance Determination*

Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be considered significant. Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

Nonlisted Special-status Wildlife Species

Direct and indirect impacts to the nonlisted special-status wildlife species detected are discussed by taxa because impacts would be similar between species.

*Direct Impacts*

#### Reptiles

Construction-related activities within the Alternative 1 unique area would directly impact nonlisted special-status reptile species by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Species detected that would be impacted by removal of upland habitat include red-diamond rattlesnake and Blainville's horned lizard. Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Avian Species

Construction-related activities within the Alternative 1 unique area would result in temporary impacts to WBO suitable habitat (Table 4-13; Figure 3-8). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Occupied and active WBO burrows would not be directly impacted by construction activities (Table 4-13; Figure 3-8).

Construction-related activities within the Alternative 1 unique area would directly impact other nonlisted special-status avian species by the temporary removal of riparian and wetland habitat, such as road pools and tamarisk scrub, and upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Yellow-breasted chat and yellow warbler would not be impacted by removal of riparian and wetland habitat within Alternative 1 unique area because the small fragmented riparian habitat in this area is not large enough to be suitable for these species. Species detected that would be impacted by removal of upland habitat include southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, and loggerhead shrike. Species detected that would be impacted by removal of both riparian and wetland habitat and upland habitat include Cooper's hawk and white-tailed kite. A variety of other avian species protected under the MBTA (see Section 3.5.4, Migratory Birds), but not considered rare, threatened, or endangered by local, state, or federal laws or regulations, would also be impacted by removal of these vegetation communities.

#### Mammal Species

Construction-related activities within the Alternative 1 unique area would directly impact San Diego black-tailed jackrabbit by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

### *Indirect Impacts*

Indirect impacts within the Alternative 1 unique area are identical in nature to those described for nonlisted special-status wildlife species in Section 4.1.1.4 for the Area Common to All

Alternatives. Indirect impacts would be limited to those nonlisted special-status wildlife species in proximity to the Alternative 1 unique area, including red-diamond rattlesnake, Blainville's horned lizard, southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, loggerhead shrike, Cooper's hawk, white-tailed kite, and San Diego black-tailed jackrabbit.

*Significance Determination*

Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be considered significant. Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.2.5 Wildlife Corridors (Issue 4)

Direct and indirect impacts from construction-related activities in the Alternative 1 unique area as they relate to Issue 4 (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 site) would be identical to those described in Section 4.1.1.5 for the Area Common to All Alternatives. Based on the rationale provided in Section 4.1.1.5 (i.e., Area Common to All Alternatives), construction-related activities within the Alternative 1 unique area would not prohibit terrestrial wildlife movement between habitats.

#### 4.1.2.6 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, State, or Federal Regulations, Policies, Ordinances, or Plans (Issues 5 and 6)

The Proposed Project would be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The District is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. Therefore no conflicts are expected with any approved regional, state, or federal regulations, policy, ordinance, or plan.

### 4.1.3 Alternative 2 – Unique Area

All direct impacts from construction within the Alternative 2 unique area are temporary. There are no permanent direct impacts. The "temporary impact area" is associated with the pipeline corridor (Figure 1-3).

#### 4.1.3.1 Vegetation Communities (Issue 1)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 2 unique area as they relate to Issue 1: riparian habitat or other sensitive natural communities. All of the direct impacts from construction within the Alternative 2 unique area would be temporary.

Direct Impacts

Construction-related activities would result in temporary removal of vegetation communities (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of vegetation would result from grading, trenching, and installation of the pipeline.

Indirect Impacts

Indirect impacts to vegetation communities within the Alternative 2 unique area are identical in nature to those described in Section 4.1.1.1 for the Area Common to All Alternatives.

Significance Determination

Other cover types are not regulated or protected under any federal, state, or local law or regulation and therefore are not considered sensitive. Upland and riparian vegetation communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for many special-status species. The permanent removal and indirect impacts to these sensitive vegetation communities would be considered significant. Potential construction-related direct and indirect impacts to sensitive communities would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.3.2 Jurisdictional Waters and Wetlands (Issue 2)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 2 unique area as they relate to Issue 2: federally protected wetlands as defined by Section 404 of the CWA or any state-protected jurisdictional areas.

No jurisdictional waters of the U.S. and state occur within the Alternative 2 unique area. Therefore, no direct or indirect impacts would occur to jurisdictional waters of the U.S. and state in the Alternative 2 unique area.

#### 4.1.3.3 Special-Status Plant Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 2 unique area as they relate to Issue 3: plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts from construction within the Alternative 1 unique area would be temporary.

Direct and indirect impacts to the one federally listed and state-listed plant species, Otay tarplant, detected during botanical surveys are discussed separately from nonlisted special-status plant species.

Federally and State-Listed Plant Species

There were no Otay tarplant observations within the Alternative 2 unique area or immediate vicinity of this area. No critical habitat occurs for the species within the Alternative 2 unique area. Therefore, no direct or indirect impacts to Otay tarplant are anticipated in the Alternative 2 unique area.

Nonlisted Special-status Plant Species

Direct and indirect impacts to the 12 nonlisted special-status plant species detected during botanical surveys are discussed as a group because impacts would be similar among plant species.

*Direct Impacts*

Two of the 12 nonlisted special-status plant species detected during rare plant surveys are within the temporary direct impact area. Construction-related activities within the Alternative 2 unique area would result in temporary impacts to coast barrel cactus and small-flowered microseris (Table 4-9; Figure 3-3). Permanent and temporary removal of these nonlisted special-status plant species would result from grading, trenching, and installation of the pipeline.

*Indirect Impacts*

Indirect impacts within the Alternative 2 unique area are identical in nature to those described for nonlisted special-status plant species in Section 4.1.1.3 for the Area Common to All Alternatives. Indirect impacts would be limited to those nonlisted special-status plant species in proximity to the Alternative 2 unique area, including coast barrel cactus, San Diego sunflower, San Diego County needlegrass, San Diego goldenstar, and Palmer's grappling hook.

*Significance Determination*

Potential construction-related indirect impacts to nonlisted special-status plant species would be considered significant. Potential construction-related indirect impacts to nonlisted special-status plant species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.3.4 Special-Status Wildlife Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 2 unique area as they relate to Issue 3: wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts to habitat from construction within the Alternative 2 unique area would be temporary.

Direct and indirect impacts are discussed for each federally listed and state-listed wildlife species separately from nonlisted special-status wildlife species.

Federally Listed and State-Listed Wildlife Species

*Direct Impacts*

#### San Diego Fairy Shrimp

No SDFS were detected during surveys. Historically, this species has been detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. Construction-related activities within the Alternative 2 unique area would result in temporary impacts to SDFS critical habitat (Table 4-7; Figure 3-4). Temporary removal of SDFS critical habitat would result from grading, trenching, and installation of the pipeline.

#### Riverside Fairy Shrimp

RFS was detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. Construction-related activities within the Alternative 2 unique area would result in temporary impacts to RFS critical habitat (Table 4-7; Figure 3-4). Temporary impacts would result from grading, trenching, and installation of the pipeline.

#### Quino Checkerspot Butterfly

Construction-related activities within the Alternative 2 unique area would result in temporary impacts to QCB suitable habitat and critical habitat (Table 4-7 and 4-11; Figure 3-5). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Coastal California Gnatcatcher

Construction-related activities within the Alternative 2 unique area would result in temporary impacts to CAGN suitable habitat (Table 4-11; Figure 3-6). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Collisions are expected to be minimal since all of the CAGN and/or territories were detected at the northern end of the Proposed Project. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment.

#### Least Bell's Vireo

No LBV suitable habitat occurs within the Alternative 2 unique area. Therefore, no direct impacts to LBV are expected to occur.

*Indirect Impacts*

Indirect impacts within the Alternative 2 unique area are identical in nature to those described for federally listed and state-listed species in Section 4.1.1.4 for the Area Common to All Alternatives. Indirect impacts would be limited to those federally listed and state-listed wildlife species in proximity to the Alternative 2 unique area, including RFS, SDFS, QCB, and CAGN.

*Significance Determination*

Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be considered significant. Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

Nonlisted Special-status Wildlife Species

Direct and indirect impacts to the nonlisted special-status wildlife species detected are discussed by taxa because impacts would be similar between species.

*Direct Impacts*

#### Reptiles

Construction-related activities within the Alternative 2 unique area would directly impact nonlisted special-status reptile species by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Species detected that would be impacted by removal of upland habitat include red-diamond rattlesnake and Blainville's horned lizard. Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Avian Species

Construction-related activities within the Alternative 2 unique area would result in temporary impacts to WBO suitable habitat (Table 4-13; Figure 3-8). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Occupied and active WBO burrows would not be directly impacted by construction activities within the Alternative 2 unique area (Table 4-13; Figure 3-8).

Construction-related activities within the Alternative 2 unique area would directly impact other nonlisted special-status avian species by the temporary removal of riparian and wetland habitat, such as road pools and tamarisk scrub, and upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Yellow-breasted chat and yellow warbler would not be impacted by removal of riparian and wetland habitat within the Alternative 2 unique area because the small fragmented riparian habitat in this area is not large enough to be suitable for these species. Species detected that would be impacted by removal of upland habitat include southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, and loggerhead shrike. Species detected that would be impacted by removal of both riparian and wetland habitat and upland habitat include Cooper's hawk and white-tailed kite. A variety of other avian species protected under the MBTA (see Section 3.5.4, Migratory Birds), but not considered rare, threatened, or endangered by local, state, or federal laws or regulations, would also be impacted by removal of these vegetation communities.

#### Mammal Species

Construction-related activities within the Alternative 2 unique area would directly impact San Diego black-tailed jackrabbit by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline and additional project infrastructure. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

*Indirect Impacts*

Indirect impacts within the Alternative 2 unique area are identical in nature to those described for nonlisted special-status wildlife species in Section 4.1.1.4 for the Area Common to All Alternatives. Indirect impact would be limited to those nonlisted special-status wildlife species in proximity to the Alternative 2 unique area, including, red-diamond rattlesnake, Blainville's horned lizard, southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, loggerhead shrike, Cooper's hawk, white-tailed kite, and San Diego black-tailed jackrabbit.

*Significance Determination*

Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be considered significant. Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.3.5 Wildlife Corridors (Issue 4)

Direct and indirect impacts from construction-related activities in the Alternative 2 unique area as they relate to Issue 4 (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 site) would be identical to those described in Section 4.1.1.5 for the Area Common to All Alternatives. Based on the rationale provided in Section 4.1.1.5 (i.e., Area Common to All Alternatives), construction-related activities within the Alternative 2 unique area would not prohibit terrestrial wildlife movement between habitats.

#### 4.1.3.6 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, State, or Federal Regulations, Policies, Ordinances, or Plans (Issues 5 and 6)

The Proposed Project would be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The District is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. Therefore, no conflicts are expected with any approved regional, state, or federal regulations, policy, ordinance, or plan.

### 4.1.4 Alternative 3 – Unique Area

All direct impacts from construction within the Alternative 3 unique area are temporary. There are no permanent direct impacts. The "temporary impact area" is associated with the pipeline corridor (Figure 1-3).

#### 4.1.4.1 Vegetation Communities (Issue 1)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 3 unique area as they relate to Issue 1: riparian habitat or other sensitive natural communities. All of the direct impacts from construction within the Alternative 2 unique area would be temporary.

Direct Impacts

Construction-related activities would result in temporary removal of vegetation communities (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of vegetation would result from grading, trenching, and installation of the pipeline.

Indirect Impacts

Indirect impacts to vegetation communities within the Alternative 3 unique area are identical in nature to those described in Section 4.1.1.1 for the Area Common to All Alternatives.

Significance Determination

Other cover types are not regulated or protected under any federal, state, or local law or regulation and therefore are not considered sensitive. Upland and riparian vegetation communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for many special-status species. The permanent removal and indirect impacts to these sensitive vegetation communities would be considered significant. Potential construction-related direct and indirect impacts to sensitive communities would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.4.2 Jurisdictional Waters and Wetlands (Issue 2)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 3 unique area as they relate to Issue 2: federally protected wetlands as defined by Section 404 of the CWA or any state-protected jurisdictional areas.

No jurisdictional waters of the U.S. and state occur within the Alternative 3 unique area. Therefore, no direct or indirect impacts would occur to jurisdictional waters of the U.S. and state in the Alternative 3 unique area.

#### 4.1.4.3 Special-status Plant Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 3 unique area as they relate to Issue 3: plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts from construction within the Alternative 1 unique area would be temporary.

Direct and indirect impacts to the one federally listed and state-listed plant species, Otay tarplant, detected during botanical surveys are discussed separately from nonlisted special-status plant species.

Federally and State-Listed Plant Species

There were no Otay tarplant observations within the Alternative 3 unique area or immediate vicinity of this area. No critical habitat occurs for the species within the Alternative 3 unique area. Therefore, no direct or indirect impacts to Otay tarplant are anticipated in the Alternative 3 unique area.

Nonlisted Special-status Plant Species

Direct and indirect impacts to the 12 nonlisted special-status plant species detected during botanical surveys are discussed as a group because impacts would be similar between plant species.

*Direct Impacts*

One of the 12 nonlisted special-status plant species detected during rare plant surveys is within the temporary direct impact area. Construction-related activities within the Alternative 3 unique area would result in temporary impacts to coast barrel cactus (Table 4-9; Figure 3-3). Permanent and temporary removal of these nonlisted special-status plant species would result from grading, trenching, and installation of the pipeline.

*Indirect Impacts*

Indirect impacts within the Alternative 3 unique area are identical in nature to those described for nonlisted special-status plant species in Section 4.1.1.3 for the Area Common to All Alternatives. Indirect impact would be limited to those nonlisted special-status plant species in proximity to the Alternative 3 unique area, including coast barrel cactus, San Diego sunflower, San Diego County needlegrass, San Diego goldenstar, and Palmer's grappling hook.

*Significance Determination*

Potential construction-related indirect impacts to nonlisted special-status plant species would be considered significant. Potential construction-related indirect impacts to nonlisted special-status plant species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.4.4 Special-Status Wildlife Species (Issue 3)

This section analyzes direct and indirect impacts from construction-related activities in the Alternative 3 unique area as they relate to Issue 3: wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. All of the direct impacts to habitat from construction within the Alternative 2 unique area would be temporary.

Direct and indirect impacts are discussed for each federally listed and state-listed wildlife species separately from nonlisted special-status wildlife species.

Federally and State-Listed Wildlife Species

*Direct Impacts*

**San Diego Fairy Shrimp**

No SDFS were detected during surveys. Historically, this species has been detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. Construction-related activities within the Alternative 3 unique area would result in temporary impacts to SDFS critical habitat (Table 4-7; Figure 3-4). Temporary removal of SDFS critical habitat would result from grading, trenching, and installation of the pipeline.

**Riverside Fairy Shrimp**

RFS was detected in the 250-foot Study Area, but outside the Proposed Project's direct impact area. Construction-related activities within the Alternative 3 unique area would result in temporary impacts to RFS critical habitat (Table 4-7; Figure 3-4). Temporary impacts would result from grading, trenching, and installation of the pipeline.

**Quino Checkerspot Butterfly**

Construction-related activities within the Alternative 3 unique area would result in temporary impacts to QCB suitable habitat and critical habitat (Table 4-7; 4-11 and Figure 3-5). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Collisions are expected to be minimal since all of the QCB observations were outside of the impact area.

**Coastal California Gnatcatcher**

Construction-related activities within the Alternative 3 unique area would result in temporary impacts to CAGN suitable habitat (Table 4-11; Figure 3-5). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Collisions are expected to be minimal since all of the CAGN and/or territories were detected at the northern end of the Proposed Project. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment.

#### Least Bell's Vireo

No LBV suitable habitat occurs within the Alternative 3 unique area. Therefore, no direct impacts to LBV are expected to occur.

*Indirect Impacts*

Indirect impacts within the Alternative 3 unique area are identical in nature to those described for federally listed and state-listed species in Section 4.1.1.4 for the Area Common to All Alternatives. Indirect impacts would be limited to those federally listed and state-listed wildlife species in proximity to the Alternative 3 unique area, including RFS, SDFS, QCB, and CAGN.

*Significance Determination*

Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be considered significant. Potential construction-related direct and indirect impacts to RFS, SDFS, QCB, and CAGN would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

Nonlisted Special-status Wildlife Species

Direct and indirect impacts to the nonlisted special-status wildlife species detected are discussed by taxa because impacts would be similar between species.

*Direct Impacts*

#### Reptiles

Construction-related activities within the Alternative 3 unique area would directly impact nonlisted special-status reptile species by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Species detected that would be impacted by removal of upland habitat include red-diamond rattlesnake and Blainville's horned lizard. Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

#### Avian Species

Construction-related activities within the Alternative 3 unique area would result in temporary impacts to WBO suitable habitat (Table 4-13; Figure 3-8). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Occupied and active WBO burrows would not be directly impacted by construction activities within the Alternative 3 unique area (Table 4-13; Figure 3-8).

Construction-related activities within the Alternative 3 unique area would directly impact other nonlisted special-status avian species by the temporary removal of riparian and wetland habitat, such as road pools and tamarisk scrub, and upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Yellow-breasted chat and yellow warbler would not be impacted by removal of riparian and wetland habitat within the Alternative 3 unique area because the small fragmented riparian habitat in this area is not large enough to be suitable for these species. Species detected that would be impacted by removal of upland habitat include southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, and loggerhead shrike. Species detected that would be impacted by removal of both riparian and wetland habitat and upland habitat include Cooper's hawk and white-tailed kite. A variety of other avian species protected under the MBTA (see Section 3.5.4, Migratory Birds), but not considered rare, threatened, or endangered by local, state, or federal laws or regulations, would also be impacted by removal of these vegetation communities.

#### Mammal Species

Construction-related activities within the Alternative 3 unique area would directly impact San Diego black-tailed jackrabbit by the temporary removal of upland habitat, such as Diegan coastal sage scrub, native grassland, and nonnative grassland (Tables 4-2 and 4-4; Figure 3-1). Temporary removal of habitat would result from grading, trenching, and installation of the pipeline. Construction may also result in impacts to individuals from vehicular strikes or excavation equipment.

*Indirect Impacts*

Indirect impacts within the Alternative 3 unique area are identical in nature to those described for nonlisted special-status wildlife species in Section 4.1.1.4 for the Area Common to All Alternatives. Indirect impacts would be limited to those nonlisted special-status wildlife species in proximity to the Alternative 3 unique area, including red-diamond rattlesnake, Blainville's horned lizard, southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, California horned lark, loggerhead shrike, Cooper's hawk, white-tailed kite, and San Diego black-tailed jackrabbit.

*Significance Determination*

Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be considered significant. Potential construction-related direct and indirect impacts to nonlisted special-status wildlife species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

#### 4.1.4.5 Wildlife Corridors (Issue 4)

Direct and indirect impacts from construction-related activities in the Alternative 3 unique area as they relate to Issue 4 (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 site) would be identical to those described in Section 4.1.1.5 for the Area Common to All Alternatives. Based on the rationale provided in Section 4.1.1.5 (i.e., Area Common to All Alternatives), construction-related activities within the Alternative 3 unique area would not prohibit terrestrial wildlife movement between habitats.

#### 4.1.4.6 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, State, or Federal Regulations, Policies, Ordinances, or Plans (Issues 5 and 6)

The Proposed Project would be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The District is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. Therefore, no conflicts are expected with any approved regional, state, or federal regulations, policy, ordinance, or plan.

## 4.2 OPERATION AND MAINTENANCE IMPACTS

This section analyzes impacts to the biological resources occurring within the vicinity of the Proposed Project that would result from O&M activities. O&M impacts are grouped into one discussion for all three alternatives because impacts are expected to be similar.

O&M of the Proposed Project would be minimal. Vehicles would drive on existing and/or constructed roads to access the metering station, potential pump station, and disinfection facility. There would be no disturbance off road. Trip generation for ongoing O&M of the Proposed Project after it is built is considered insignificant (VRPA 2015).

In the rare case that delivered water falls outside the specified levels of the Water Purchase Agreement (non-spec water), the District would discharge this water into O'Neal Canyon at an existing outfall structure located south of Roll Reservoir and west of Alta Road. The water would be discharged at a rate typical of the flow rate during a rain event.

### 4.2.1 Vegetation Communities (Issue 1)

This section analyzes direct and indirect impacts from O&M activities as they relate to Issue 1: riparian habitat or other sensitive natural communities.

#### 4.2.1.1 Direct Impacts

All future O&M activities would occur on existing or constructed roads and facilities. No additional vegetation removal would be required. As a result, direct impacts to vegetation communities during O&M would not occur

#### 4.2.1.2 Indirect Impacts

O&M activities may result in permanent indirect impacts to vegetation communities surrounding the areas of disturbance. Permanent, indirect impacts to vegetation communities may include edge effects and increased exposure to exotic plants along the newly created Lone Star Road. Erosion and stormwater contaminant runoff may degrade adjacent vegetation communities.

#### 4.2.1.3 Significance Determination

Indirect impacts to sensitive vegetation communities would be considered significant impacts. Potential O&M-related indirect impacts to sensitive communities would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

### 4.2.2 Jurisdictional Waters and Wetlands (Issue 2)

This section analyzes direct and indirect impacts from O&M activities as they relate to Issue 2: federally protected wetlands as defined by Section 404 of the CWA or any state-protected jurisdictional areas.

#### 4.2.2.1 Direct Impacts

All future O&M activities would occur on existing or constructed roads and facilities. As a result, direct impacts to jurisdictional waters of the U.S. and state during O&M would not occur.

#### 4.2.2.2 Indirect Impacts

Erosion and stormwater contaminant runoff has the potential to result in permanent indirect impacts to jurisdictional waters of the U.S. and state.

#### 4.2.2.3 Significance Determination

Indirect impacts to sensitive jurisdictional waters of the U.S. and state would be considered significant impacts. Potential O&M-related indirect impacts to jurisdictional waters of the U.S. and state would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

### 4.2.3 Special-Status Species (Issue 3)

This section analyzes direct and indirect impacts from O&M activities as they relate to Issue 3: plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. Special-status plant and wildlife are grouped together for this discussion.

#### 4.2.3.1 Direct Impacts

All future O&M activities would occur on existing or constructed roads and facilities. As a result, direct impacts to special-status plant species during O&M would not occur. O&M activities may result in impacts to special-status wildlife species from vehicular strikes with individuals crossing the roads. However, vehicular traffic during O&M of the Proposed Project is considered insignificant (VRPA 2015) and wildlife collisions are expected to be minimal due to the low traffic volume.

#### 4.2.3.2 Indirect Impacts

O&M activities may result in permanent indirect impacts to special-status plant and wildlife habitat surrounding the areas of disturbance. Permanent, indirect impacts to special-status plant and wildlife habitat may include edge effects and increased exposure to exotic plants along the newly created Lone Star Road. Erosion and stormwater contaminant runoff may degrade adjacent habitat. Lighting on the potential pump station and disinfection facility may impact species by disrupting the behavior of nocturnal wildlife species and could also disturb diurnal avian species night roosting in adjacent habitat. Additionally, noise produced by equipment in the potential pump station and disinfection facility may impact avian species.

#### 4.2.3.3 Significance Determination

Indirect impacts to special-status species would be considered significant. Potential O&M-related indirect impacts to special-status species would be reduced to less than significant through implementation of the avoidance, minimization, and mitigation measures described in Chapter 5.

### 4.2.4 Wildlife Corridors (Issue 4)

This section analyzes impacts from O&M activities as they relate to Issue 4: 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.

The approximately 4-mile-long (depending on the selected alignment alternative) water pipeline will be located underground and there are no structures that would prevent wildlife (including terrestrial and avian) movement through the Proposed Project. Therefore, no impacts to wildlife corridors resulting from O&M are expected.

### 4.2.5 Conflict with Habitat Conservation Plan; Natural Community Conservation Plan; or Other Approved Local, Regional, State, or Federal Regulations, Policies, Ordinances, or Plans (Issues 5 and 6)

The Proposed Project would be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The District is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. Therefore, no conflicts are expected with any approved regional, state, or federal regulations, policy, ordinance, or plan.

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# CHAPTER 5.0
# AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

This section identifies avoidance, minimization, and mitigation measures that will be implemented as part of the Proposed Project to prevent degradation of sensitive biological resources to the maximum extent feasible. Design and construction measures provided in this chapter are categorized by general and resource-specific measures. General measures are applicable for avoidance and minimization of direct and indirect construction impacts to all biological resources discussed in Chapter 4. Resource-specific measures are applicable for avoidance, minimization, and mitigation of direct and indirect construction impacts to vegetation communities, jurisdictional waters and wetlands, special-status plants, and special-status wildlife discussed in Chapter 4.

Design and construction measures are applicable to all three alternatives. Design measures are included to address O&M impacts from lighting, noise, and invasive species. Additionally, the Storm Water Pollution Prevention Plan (see BIO-12) and Weed Management Plan (see BIO-14) would be implemented during construction and O&M activities to address indirect impacts to vegetation communities and jurisdictional waters of the U.S. and state. No other O&M measures are provided because no other impacts during O&M were determined to be significant.

## 5.1 DESIGN MEASURES

BIO-1. The development footprint of the Proposed Project would be confined to the minimal amount of area necessary for construction and safe, reliable operation. Development of new access routes would be limited to the maximum extent possible by using existing roadways. All construction areas, staging areas, and access routes would be clearly delineated in the final engineering plans.

BIO-2. Landscaping would include California native species that are drought tolerant for erosion control on slopes.

BIO-3. Potential pump station and disinfection facility exterior lighting would be motion sensitive rather than steady burning, and would be downcast and shielded to keep light within the boundary of the Proposed Project.

BIO-4. The potential pump station and disinfection facility equipment would be enclosed within a building, which would be designed so that noise levels outside of the

building will not exceed 60 dBA (A-weighted decibels). The design parameters will be evaluated prior to construction, and tested prior to operation, by a qualified acoustician.

## 5.2 CONSTRUCTION MEASURES

### 5.2.1 General

BIO-5. The District will identify a qualified biologist(s) approved by USFWS and CDFW. The name, documented experience, any permit numbers, and resumes for the qualified biologist(s) will be submitted to USFWS and CDFW for approval at least 7 days prior to initiation of construction. The qualified biologist(s) will monitor during vegetation clearing, grading, and/or construction. If sensitive species and/or habitats adjacent to the Proposed Project sites are inadvertently impacted by activities, then the qualified biologist(s) will immediately inform the on-site construction supervisor who will temporarily halt or redirect work away from the area of impact. The District will immediately be notified of the impact and will consult with the appropriate regulatory agencies. The qualified biologist(s) will provide a monthly report to USFWS and CDFW, identifying construction activities and the results of compliance monitoring related to implementation of avoidance and minimization measures. The qualified biologist(s) will meet the following minimum qualifications:

- Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field (a bachelor's degree may be substituted with at least 5 years of field biology experience).
- At least 3 years of experience in field biology.
- At least 1 year of field experience with biological resources found in the geographic region of the Proposed Project.
- Extensive knowledge of the biology and ecology of sensitive species occurring and potentially occurring within the 500-foot Study Area.

BIO-6. Prior to vegetation clearing, grading, and/or construction activities that may impact sensitive species of habitats, a qualified biologist(s) will oversee installation of appropriate temporary fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of identified sensitive resources outside the approved construction/staging zones.

All construction access and circulation will be limited to designated construction/staging zones. The fencing will be checked weekly to ensure that fenced construction limits are not exceeded. This fencing will be removed upon completion of construction activities. Construction staging areas will be located a minimum of 100 feet from drainages, wetlands, and areas supporting sensitive habitats or species. Fueling of equipment will occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits will be maintained to minimize and control fluid and grease leaks. Provisions will be made to contain and clean up unintentional spills of fuel, oil, or fluid.

BIO-7. A Worker Environmental Awareness Plan will be developed and implemented prior to the start of construction. Environmental training will be led by the qualified biologist(s) and will cover the sensitive resources found on-site, flagging/fencing of exclusion areas, permit requirements, and other environmental issues.

BIO-8. Spoils, trash, and any construction-generated debris will be removed to an approved off-site disposal facility. A trash abatement program will be established. Trash and food items will be contained in closed containers and removed daily to reduce the attraction of opportunistic predators such as common ravens, coyotes, and feral cats and dogs that may prey on sensitive species.

BIO-9. Wildfires will be prevented by exercising care when driving and by not parking construction vehicles where catalytic converters could ignite dry vegetation. All construction vehicles will carry water and shovels or fire extinguishers in the field. The use of shields, protective mats, or other fire prevention equipment will be used during grinding and welding to prevent or minimize the potential for fire. Smoking will take place within designated areas and away from vegetated areas. Cigarette butts will be disposed of in proper receptacles (e.g., vehicle ashtrays or outdoor metal cigarette ashtrays).

BIO-10. When handling toxic substances, construction vehicles will carry a Hazardous Material Spill Kit for use in the event of a spill. All construction personnel working on-site will be trained in using these kits. Spill containment materials must be on-site or readily available for any equipment maintenance or refueling.

BIO-11. Construction workers will be prohibited from bringing domestic pets and firearms to the site.

BIO-12. A Storm Water Pollution Prevention Plan will be prepared prior to the start of construction. The Storm Water Pollution Prevention Plan will identify the design features and best management practices (BMPs) that will be used to manage drainage-related issues (e.g., erosion and sedimentation) during construction and O&M activities. Erosion-control measures will be regularly checked by inspectors, qualified biologist(s), and/or resident engineer. Fencing and erosion-control measures in all construction areas will be inspected a minimum of once per week.

BIO-13. All construction activities will cease during heavy rains to prevent unnecessary erosion, runoff, and sedimentation, and will not resume until conditions are suitable for the movement of equipment and materials.

BIO-14. A Weed Management Plan will be developed and approved by the wildlife agencies prior to the commencement of construction activities. The plan will include a variety of measures that will be undertaken during construction and O&M activities to prevent the introduction and spread of new weed species. The plan will also address monitoring, plus educating personnel on weed identification and methods for avoiding and treating infestations. Weed control methods may include both physical and chemical control. If mulch is used, it is required to be certified as weed-free.

BIO-15. Dust suppression measures will be implemented during construction to minimize the creation of dust clouds and possible degradation of sensitive vegetation communities, special-status species suitable habitat, and critical habitat. These measures include applying water at least once per day or as determined necessary by the qualified biologist(s) to prevent visible dust emissions from exceeding 100 feet in length in any direction. In addition, watering frequency will be increased to four times per day if winds exceed 25 miles per hour. Nontoxic soil stabilizers may be used on access roads to control fugitive dust, as needed.

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BIO-16. Daytime vehicle speeds will be restricted to posted speed limits on existing paved roads and to 15 miles per hour on dirt access roads during the all phases of the Proposed Project. Speed limit signs will be posted on dirt access roads throughout the site to remind workers of travel speed restrictions.

BIO-17. Trenches located within open areas for pipe installation shall be backfilled with earth at the end of each work day to prevent wildlife access, with the exception of

the end of the open pipe which will be left exposed. During installation, the area surrounding the end segment of exposed open pipe shall be sloped at the end of each work day at an angle to allow for wildlife to easily escape. Also, the open end of the exposed pipe shall be covered at the end of each work day with a material flush with the open pipe entrance such as a wooden board or cap such that no wildlife, including smaller species like lizards, can enter the pipe. Should wildlife become trapped in the vicinity of the open exposed pipe, the qualified biologist(s) shall remove and relocate the individual outside the construction zone. Trenches located within paved roadways for pipe installation shall also be backfilled with earth and aggregate base material for the same precautions as noted above. However, trenches located within paved roadways will not be sloped as the installation will require shoring. Shored trenches will be covered with steel plates as asphalt concrete pavement will not be placed at the end of each day. With steel plates, there will be no open ends of the pipe exposed.

### 5.2.2 Vegetation Communities

BIO-18. After completion of final grading in temporary impact areas, the construction documents will require that all graded areas within 100 feet of native vegetation are hydroseeded and/or planted with native plant species similar in composition to the adjacent undisturbed vegetation communities. The District or the construction contractor will retain a qualified biologist(s) to monitor these activities to ensure nonnative or invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas will be watered via a temporary drip irrigation system or watering truck. Irrigation will cease at some time after successful plant establishment and growth, to be determined by the qualified biologist(s). No fertilizers or pesticides will be used in the hydroseeded/planted areas. Any irrigation runoff from hydroseeded/planted areas will be directed away from adjacent native vegetation communities, and contained and/or treated within the development footprint of individual projects. All planting stock will be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests will not be allowed to be used in the hydroseeded/planted areas.

### 5.2.3 Jurisdictional Waters and Wetlands

BIO-19. Discharges will not permanently restrict or impede the passage of normal or expected high flows, or cause the permanent relocation or diversion of the flows.

BIO-20. Where turbidity or erosion occurs or is expected to occur from drainage structures, biofilters, detention basins, or other appropriate drainage catchment structures will be installed where flow conveyance occurs from a project site directly into a jurisdictional area.

BIO-21. Temporary impacts to jurisdictional waters and wetlands will be recontoured to pre-construction conditions. Temporary impacts to vegetated jurisdictional waters and wetlands will also be revegetated with appropriate native vegetation or nonnative species compatible with the landscape palette.

BIO-22. Temporary impacts to jurisdictional waters will be mitigated through restoration on-site at a ratio of 1:1. A restoration maintenance and monitoring plan will be prepared by a qualified restoration ecologist and will incorporate an appropriate native species planting palette to blend in with the existing and surrounding habitats. No nonnative species will be incorporated into the restoration plan. This plan will include details of site preparation, implementation and planting specifications, and maintenance and monitoring procedures. The plan will also outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria.

Impacts to jurisdictional waters will require the following permits by regulatory federal and state agencies and acts: (1) USACE, CWA, Section 404 permit for placement of dredged or fill material within waters of the U.S.; (2) RWQCB, CWA, Section 401 state water quality certification/waiver for an action that may result in degradation of waters of the state; and (3) CDFW, CFGC, Section 1602 agreement for alteration of a streambed. The proposed mitigation is subject to the resource agencies' review and discretion; thus, the mitigation obligations for the impacts to jurisdictional wetland habitats may change from those presented here.

### 5.2.4 Special-status Species

#### 5.2.4.1 Avoidance and Minimization

San Diego Fairy Shrimp and Riverside Fairy Shrimp

BIO-23. Avoidance and minimization of indirect impacts to SDFS and RFS occupied habitat adjacent to project sites will be fulfilled through installation of construction measures such as specific BMPs (e.g., sediment fencing intended to protect vernal pools) to avoid potential adverse impacts (e.g., altered hydrologic regime). No trenching in association with BMPs, such as sediment fencing, etc. will occur within vernal pool watershed areas.

BIO-24. To avoid impacts to SDFS and/or RFS, known occurrences within project boundaries or 250 feet of project boundaries will be identified on project construction plans and as determined necessary by the qualified biologist(s). Occupied habitat will be clearly indicated in the field with markers or exclusion fencing. Known populations and restricted areas will be monitored by the qualified biologist(s) during construction phases, as determined necessary.

Quino Checkerspot Butterfly

BIO-25. All clearing and grubbing in suitable QCB habitat will occur July through December, when adult and larvae activity is reduced and host plants are not generally flowering or germinating. If clearing and grubbing is not feasible within this time period, written consent from USFWS will be obtained.

BIO-26. In the event of an unforeseen circumstance involving QCB (e.g., QCB becoming trapped within construction vehicle), the qualified biologist(s) will be contacted immediately and informed of the situation. If the qualified biologist(s) determines that immediate action is not required (e.g., no threat of take), the qualified biologist(s) will coordinate with USFWS within 24 hours of the event to determine the appropriate course of action. If the qualified biologist(s) determines that immediate action is necessary (e.g., threat of take), the qualified biologist(s) will determine the appropriate course of action. USFWS will be notified within 24 hours of the event and about the remedial action taken.

California Gnatcatcher and Least Bell's Vireo

BIO-27. To the extent possible, vegetation clearing will occur outside of the breeding seasons for habitat occupied by CAGN and LBV, and other avian species (e.g., CAGN, February 15 through August 15; LBV, March 15 through September 15). If vegetation clearing must occur during the CAGN or LBV breeding season, a pre-construction nest survey will be conducted within the construction footprint and 500-foot buffer by the qualified biologist(s) 10 days prior to the start of construction in any given area of the project footprint. If no active nests are discovered, construction may proceed. If active nests are observed that could be disturbed by construction activities, these nests and a 500-foot buffer will be avoided until the young have fledged and/or the monitor determines that no impacts are anticipated to the nesting birds or their young. The qualified biologist(s) will be responsible for coordinating with USFWS and CDFW to determine if construction activities could disturb an active nest and when nests are no longer active. If construction ceases for 5 or more consecutive days during the nesting season, repeat nesting bird surveys will be required to ensure that new nesting locations have not been established within the construction footprint and a 500-foot buffer or greater.

BIO-28. Noise monitoring will be conducted if construction activities are scheduled during the CAGN or LBV breeding season to determine if the construction-related noise levels will exceed 60 dBA hourly $L_{eq}$ within 500 feet of the noise source. If nesting CAGN or LBV are in the vicinity of the project footprint and construction is occurring during the breeding season, temporary noise attenuation barriers will be built to reduce construction-related noise to below 60 dBA hourly $L_{eq}$. The qualified biologist(s) will be responsible for ensuring that noise attenuation barriers are successful at reducing noise levels. Documentation of the noise monitoring results will be provided to the District, USFWS, and CDFW within 45 days of completing the final noise monitoring event.

Burrowing Owl

BIO-29. Per CDFW guidance (CDFG 2012), a take avoidance survey (i.e., pre-construction clearance survey) will be conducted by a qualified biologist to determine presence or absence of WBO no less than 14 days and no more than 30 days prior to initiating construction activities. Surveys will include areas within the Proposed Project final footprint and a surrounding 500-foot buffer. The survey

will consist of walking parallel transects and noting any fresh WBO sign or presence of WBO. The results of the take avoidance survey will be provided to CDFW. If more than 30 days pass between the take avoidance survey and initiation of Proposed Project activities, additional take avoidance surveys may be required, depending on what actions have been implemented to deter WBO from moving into the Proposed Project footprint and buffer area. A final take avoidance survey will be conducted within the Proposed Project footprint within 24 hours prior to initiation of construction activities. Given the total duration of construction of the Proposed Project, it is expected that take avoidance surveys will be conducted in phases, in order to stay within the required survey windows associated with construction activities.

BIO-30. If occupied burrows are found during take avoidance surveys, appropriate construction buffers or setback distances will be determined by the qualified biologist on a case-by-case basis, depending on the season in which disturbance will occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.). To the extent feasible, buffers of 246 feet will be used during the breeding season (February 1 through August 31) and 164 feet will be used during nonbreeding season (September 1 through January 31). "Shelter in place" techniques will be used if necessary to create a visual and auditory barrier between construction activities and the occupied burrow. Techniques will include placing hay bales, fencing, or another physical barrier between the occupied burrow and construction activities. The qualified biologist will determine if and/or when shelter in place is necessary and feasible for implementation. When construction activities commence adjacent to the buffer area, a qualified biologist will be present on-site full time to monitor the behavior of WBO for at least 3 days. The qualified biologist will have the authority to increase the setback distance if there are signs of disturbance, such as changes in WBO behavior as a result of construction or other indications of distress.

BIO-31. If WBO activity is detected at a burrow within the Proposed Project footprint during the nonbreeding season (September 1 through January 31), WBO will be excluded from active burrows and encouraged to passively relocate to suitable, unoccupied habitat outside of the exclusion area. WBO will be excluded by installing one-way doors in burrow entrances. Although passive relocation does not result in control of the recipient area for WBO, the qualified biologists will

verify that there is an acceptable "recipient" area within a reasonable distance that provides the necessary subsidies to support WBO with the goal to minimize the stress of relocation. Subsidies to be considered include suitable burrows (primary and satellite) and habitat quality (e.g., vegetation cover, diversity) equal to or greater than that from which they were relocated. If during pre-construction surveys, WBO activity is detected at a burrow within the Proposed Project footprint during the breeding season (February 1 through August 31), then an appropriate construction buffer or setback distance will be determined by the qualified biologist on a case-by-case basis. This buffer will be flagged and all Proposed Project-related activity will remain outside of the flagged area until a qualified biologist determines the burrow is no longer occupied (e.g., juveniles are foraging independently and are capable of independent survival).

BIO-32. In the event that WBO will be excluded from the Proposed Project footprint and occupied burrows will be impacted, a mitigation site with suitable burrows and habitat must be secured. A WBO Exclusion Plan must be developed and approved by CDFW prior to excluding WBO from burrows. Specific objectives for WBO protection addressed by the WBO Exclusion Plan are to describe exclusion methodology, burrow excavation procedures, identification of artificial burrow sites, and post-relocation monitoring and reporting. Occupied WBO burrows directly impacted will be replaced as agreed to by CDFW.

Migratory Birds

BIO-33. To the extent possible, vegetation clearing will occur outside of the breeding season for other avian species protected under the MBTA (e.g., February 15 through September 15). If vegetation clearing must occur during the general avian breeding season, a pre-construction nest survey will be conducted within the construction footprint and 500-foot buffer by the qualified biologist(s) 10 days prior to the start of construction in any given area of the project footprint. If no active nests are discovered, construction may proceed. If active nests are observed that could be disturbed by construction activities, these nests and an appropriately sized buffer (typically a 500-foot buffer) will be avoided until the young have fledged and/or the monitor determines that no impacts are anticipated to the nesting birds or their young. If construction ceases for 5 or more consecutive days during the nesting season, repeat nesting bird surveys will be required to ensure

that new nesting locations have not been established within the construction footprint and a 500-foot buffer or greater.

#### 5.2.4.2 Compensatory Mitigation

BIO-34. For unavoidable impacts to special-status species (and any corresponding USFWS-designated critical habitats), and sensitive vegetation communities, off-site mitigation will be provided by one, or a combination of, the following measures, in consultation with USFWS and CDFW: (1) Debit credits from the San Miguel Habitat Management Area; (2) Contribute to the preserve system of other agency MSCPs through land acquisition or purchase of mitigation banking credits; and (3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and mitigation ratios to be approved by USFWS during Section 7 consultation and by CDFW during coordination for take of sensitive species.

BIO-35. Plans for habitat enhancement, restoration (e.g., salvage and replanting of special-status plants), and creation will be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Such plans will include, at a minimum (a) location of the mitigation site(s); (b) plant species to be used, container sizes, and seeding rates; (c) schematic depicting the mitigation area(s); (d) planting schedule; (e) description of the irrigation methodology; (f) measures to control exotic vegetation at the mitigation site(s); (g) specific success criteria (e.g., percent cover of native and nonnative species, species richness); (h) detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and preserving the mitigation site(s) in perpetuity (including conservation easements and management funding). In addition, the District will negotiate and implement long-term maintenance requirements to ensure the success of the mitigation site(s).

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# CHAPTER 6.0
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# APPENDIX A

# SURVEY DATES AND PERSONNEL FOR ALL BIOLOGICAL SURVEYS CONDUCTED WITHIN THE 500-FOOT STUDY AREA

# Appendix A
# Survey Dates and Personnel for All Biological Surveys Conducted

| Date | Personnel |
|---|---|
| *Vegetation Mapping Survey* | |
| 4/19/2013 | Bonnie Hendricks, Lance Woolley |
| 5/16/2013 | Bonnie Hendricks |
| 5/27/2013 | Bonnie Hendricks |
| *Rare Plant Survey* | |
| 3/05/2013 | Bonnie Hendricks, Erin Bergman |
| 3/12/2013 | Bonnie Hendricks, Erin Bergman |
| 4/05/2013 | Bonnie Hendricks, Erin Bergman, Fred Sproul |
| 4/12/2013 | Fred Sproul, Erin Bergman |
| 4/19/2013 | Bonnie Hendricks, Lance Woolley |
| 5/10/2013 | Bonnie Hendricks, Erin Bergman |
| 5/16/2013 | Bonnie Hendricks, Erin Bergman, Fred Sproul |
| 5/17/2013 | Erin Bergman, Josh Zinn |
| 5/27/2013 | Bonnie Hendricks, Fred Sproul |
| 2/2/2014 | Lance Woolley |
| 2/25/2014 | Lance Woolley |
| 3/14/2014 | Lance Woolley |
| 6/6/2014 | Lance Woolley |
| *Western Burrowing Owl Survey* | |
| 3/18/2013–3/20/2013 | Michael Anguiano, Andrew Fisher, James McMorran, Brennan Mulrooney |
| 4/15/2013–4/18/2013 | Michael Anguiano, Andrew Fisher, James McMorran, Brennan Mulrooney |
| 5/13/2013–5/15/2013 | Keoni Calantas, Andrew Fisher, James McMorran, Brennan Mulrooney |
| 7/01/2013–7/03/2013 | Michael Anguiano, Andrew Fisher, James McMorran, Brennan Mulrooney, Brynne Mulrooney |
| 4/6/2014 | Brennan Mulrooney |
| 4/25/2014 | Brennan Mulrooney |
| 5/21/2014 | Brennan Mulrooney |
| 6/24/2014 | Brennan Mulrooney |
| *Coastal California Gnatcatcher Survey* | |
| 3/22/2013 | Andrew Fisher, James McMorran |
| 4/29/2013 | Brennan Mulrooney |
| 5/10/2013 | Brennan Mulrooney |
| 5/24/2013 | Brennan Mulrooney |
| 6/07/2013 | Andrew Fisher |
| 6/20/2013 | Andrew Fisher |

| Date | Personnel |
|---|---|
| *Least Bell's Vireo Survey* | |
| 4/18/2013 | Brennan Mulrooney |
| 4/29/2013 | Brennan Mulrooney |
| 5/10/2013 | Brennan Mulrooney |
| 5/24/2013 | Brennan Mulrooney |
| 6/07/2013 | Andrew Fisher |
| 6/20/2013 | Andrew Fisher |
| 7/01/2013 | Brennan Mulrooney, Brynne Mulrooney |
| 7/19/2013 | Brennan Mulrooney |
| *Jurisdictional Wetlands Delineation* | |
| 09/06/2013 | Joshua Zinn |
| 09/09/2013 | Joshua Zinn and Lanika Cervantes |
| 09/10/2013 | Joshua Zinn |
| 09/11/2013 | Joshua Zinn |
| 10/22/2014 | Lanika Cervantes |
| 12/18/2014 | Julie Stout |
| *Quino Checkerspot Butterfly Focused Survey* | |
| 3/05/2013–3/12/2013 (Week 1) | Bonnie Hendricks, Erin Bergman (5 permitted biologists days) |
| 3/13/2013–3/14/2013 (Week 2) | Andrew Fisher, Barbra Calantas (4 permitted biologists days) |
| 3/19/2013–3/22/2013 (Week 3) | Andrew Fisher, Bonnie Hendricks, Erin Bergman, Erin Riley (6 permitted biologists days) |
| 3/28/2013–3/29/2013 (Week 4) | Barbra Calantas, Erin Riley, Bonnie Hendricks, Erin Bergman (4 permitted biologists days)[2] |
| 4/03/2013–4/04/2013 (Week 5) | Andrew Fisher, Bonnie Hendricks, Erin Bergman (3 permitted biologists days)[2] |
| 4/9/2013–4/10/2013 (Week 6) | Andrew Fisher, Bonnie Hendricks, Erin Bergman (3 permitted biologists days)[2] |
| 2/20/2014 (Week 1) | Andrew Fisher (1 permitted biologist day) |
| 2/25/2014 (Week 2) | Erin Bergman, Lance Woolley[3] (1 permitted biologist day) |
| 3/7/2014 (Week 3) | Erin Bergman (1 permitted biologist day) |
| 3/14/2014 (Week 4) | Andrew Fisher (1 permitted biologist day) |
| 3/21/2014 (Week 5) | Bonnie Hendricks, Eric Piehel[3] (1 permitted biologist day) |
| 3/28/2014 (Week 6) | Bonnie Hendricks, Eric Piehel[3] (1 permitted biologist day) |
| 4/4/2014 (Week 7) | Bonnie Hendricks (1 permitted biologist day) |
| 4/10/2014 (Week 8) | Andrew Fisher (1 permitted biologist day) |
| 4/17/2014 (Week 9) | Andrew Fisher (1 permitted biologist day) |
| 4/25/2014 (Week 10) | Andrew Fisher (1 permitted biologist day) |

| Date | Personnel |
|---|---|
| 4/30/2014 (Week 11) | Andrew Fisher (1 permitted biologist day) |
| 5/5/2014 (Week 12) | Andrew Fisher (1 permitted biologist day) |
| *Fairy Shrimp Wet Season Survey* | |
| 12/6/2013 | Andrew Fisher |
| 12/19/2013 | Andrew Fisher |
| 12/31/2013 | Andrew Fisher |
| 1/14/2014 | Lance Woolley |
| 1/27/2014 | Lance Woolley |
| 2/7/2014 | Lance Woolley |
| 2/21/2014 | Lance Woolley |
| 3/14/2014 | Lance Woolley |
| 3/28/2014 | Lance Woolley |
| 4/4/2014 | Lance Woolley |
| 4/13/2014 | Lance Woolley |

[1] The number of person-days varied depending on weather conditions, as outlined in the USFWS protocol. Total days per week includes only permitted biologists.
[2] After survey week 3, the Quino survey area decreased by 19 acres from 304 to 285 acres.
[3] Supervised nonpermitted biologist

# APPENDIX B

# BOTANICAL SPECIES OBSERVED

# APPENDIX B
# PLANT SPECIES OBSERVED

| Family | Scientific Name | Common Name | Nativity[1] | Status[2] |
|---|---|---|---|---|
| AGAVACEAE | *Chlorogalum parviflorum* | Smallflower Soap Plant | Native | |
| AIZOACEAE | *Carpobrotus edulis* | Freeway Iceplant | Naturalized | |
| | *Mesembryanthemum nodiflorum* | Slender-Leaved Iceplant | Naturalized | |
| ALLIACEAE | *Allium praecox* | Early Onion | Native | |
| ANACARDIACEAE | *Malosma laurina* | Laurel Sumac | Native | |
| | *Rhus integrifolia* | Lemonade Berry | Native | |
| APIACEAE | *Apiastrum angustifolium* | Mock-Parsley | Native | |
| | *Apium graveolens* | Celery | Naturalized | |
| | *Daucus pusillus* | Rattlesnake Weed | Native | |
| | *Lomatium dasycarpum* | Woolly-Fruit Lomatium | Native | |
| | *Tauschia arguta* | Parish's Tauchia | Native | |
| ARECACEAE | *Phoenix canariensis* | Canary Island Palm | Naturalized | |
| ASTERACEAE | *Achillea millefolium* | Yarrow, Milfoil | Native | |
| | *Ambrosia psilostachya* | Western Ragweed | Native | |
| | *Artemisia californica* | California Sagebrush | Native | |
| | *Baccharis salicifolia subsp. salicifolia* | Mule Fat | Native | |
| | *Baccharis sarothroides* | Broom Baccharis | Native | |
| | *Bahiopsis laciniata* | San Diego Viguiera | Native | CNPS 4.2 |
| | *Carduus pycnocephalus subsp. pycnocephalus* | Italian Thistle | Naturalized | |
| | *Centaurea melitensis* | Tocalote | Naturalized | |
| | *Chrysanthemoides monilifera subsp. monilifera* | Bitou Bush | Naturalized | |
| | *Corethrogyne filaginifolia* | Sand Aster | Native | |
| | *Deinandra conjugens* | Otay Tarplant | Native | FESA: Threatened, CESA: Endangered, CNPS: 1B.1 |
| | *Deinandra fasciculata* | (Blank) | Native | |
| | *Dittrichia graveolens* | Stinkwort | Naturalized | |
| | *Encelia californica* | California Sunflower | Native | |
| | *Eriophyllum confertiflorum* | Golden-Yarrow, Yellow-Yarrow | Native | |
| | *Glebionis coronaria* | Garland Or Crown Daisy | Naturalized | |
| | *Hedypnois cretica* | Crete Weed | Naturalized | |
| | *Helminthotheca echioides* | Bristly Ox-Tongue | Naturalized | |
| | *Heterotheca grandiflora* | Telegraph Weed | Native | |
| | *Hypochaeris glabra* | Smooth Cat's-Ear | Naturalized | |
| | *Isocoma menziesii var. menziesii* | Spreading Goldenbush | Native | |

| Family | Scientific Name | Common Name | Nativity[1] | Status[2] |
|---|---|---|---|---|
| | *Iva hayesiana* | San Diego Marsh-Elder | Native | CNPS 2.2 |
| | *Lasthenia coronaria* | Crowned Or Royal Goldfields | NATIVE | |
| | *Lasthenia gracilis* | Common Goldfields | Native | |
| | *Logfia gallica* | Daggerleaf Cottonrose | Naturalized | |
| | *Microseris douglasii subsp. platycarpha* | Small-Flowered Microseris | Native | CNPS 4.2 |
| | *Osmadenia tenella* | Osmadenia | Native | |
| | *Pluchea odorata var. odorata* | Saltmarsh-Fleabane | Native | |
| | *Pseudognaphalium beneolens* | Fragrant Everlasting | Native | |
| | *Pseudognaphalium californicum* | California Everlasting | Native | |
| | *Pseudognaphalium canescens* | White Everlasting | Native | |
| | *Psilocarphus brevissimus* | Woolly Marbles | Native | |
| | *Senecio vulgaris* | Common Groundsel | Naturalized | |
| | *Silybum marianum* | Mild Thistle | Naturalized | |
| | *Sonchus asper subsp. asper* | Prickly Sow Thistle | Naturalized | |
| | *Sonchus oleraceus* | Common Sow Thistle | Naturalized | |
| | *Stephanomeria exigua* | Small Wreath-Plant | Native | |
| | *Stylocline gnaphaloides* | Everlasting Neststraw | Native | |
| BALSAMINACEAE | *Impatiens sp.* | Impatiens | Ornamental | |
| BORAGINACEAE | *Amsinckia menziesii* | Common Fiddleneck | Native | |
| | *Cryptantha intermedia* | Intermediate Cryptantha | Native | |
| | *Harpagonella palmeri* | Palmer's Grapplinghook | Native | CNPS 4.2 |
| | *Phacelia distans* | Wild-Heliotrope | Native | |
| BRASSICACEAE | *Brassica nigra* | Black Mustard | Naturalized | |
| | *Hirschfeldia incana* | Short-Pod Mustard | Naturalized | |
| | *Lepidium nitidum* | Shining Peppergrass | Native | |
| | *Sisymbrium altissimum* | Tumble Mustard | Naturalized | |
| | *Sisymbrium irio* | London Rocket | Naturalized | |
| | *Sisymbrium orientale* | Hare's-Ear Cabbage | Naturalized | |
| CACTACEAE | *Ferocactus viridescens* | San Diego Barrel Cactus | Native | CNPS 2.1 |
| | *Opuntia littoralis* | Coast Prickly-Pear | Native | |
| CAPRIFOLIACEAE | *Lonicera subspicata* | Southern Honeysuckle | Native | |
| CARYOPHYLLACEAE | *Silene gallica* | Small-Flower Catchfly, Windmill Pink | Naturalized | |
| | *Spergularia bocconi* | Boccone's Sand-Spurrey | Naturalized | |
| | *Spergularia marina* | Saltmarsh Sand-Spurrey | Native | |
| CHENOPODIACEAE | *Atriplex canescens* | Four-Wing Saltbush | Native | |
| | *Atriplex rosea* | Tumbling Orach | Naturalized | |
| | *Atriplex semibaccata* | Australian Saltbush | Naturalized | |
| | *Beta vulgaris subsp. maritima* | Sea Beet | Naturalized | |
| | *Salsola tragus* | Russian Thistle, Tumbleweed | Naturalized | |

| Family | Scientific Name | Common Name | Nativity[1] | Status[2] |
|---|---|---|---|---|
| CLEOMACEAE | *Peritoma arborea* | Bladderpod | Native | |
| CONVOLVULACEAE | *Calystegia macrostegia* | Morning-Glory | Native | |
| | *Convolvulus arvensis* | Bindweed, Orchard Morning-Glory | Naturalized | CNPS 4.2 |
| | *Convolvulus simulans* | Small-Flowered Morning-Glory | Native | |
| CRASSULACEAE | *Crassula aquatica* | Vernal Pool Pygmy Crassula | Native | |
| | *Crassula connata* | Pygmy-Weed | Native | |
| | *Dudleya pulverulenta* | Chalk Dudleya | Native | |
| | *Dudleya variegata* | Variegated Dudleya | Native | CNPS 1B.2 |
| CUPRESSACEAE | *Hesperocyparis forbesii* | Tecate Cypress | Native | CNPS 1B.1 |
| CYPERACEAE | *Eleocharis macrostachya* | Pale Spike-Rush | Native | |
| ERICACEAE | *Arbutus unedo* | Strawberry Tree | Ornamental | |
| EUPHORBIACEAE | *Euphorbia peplus* | Petty Spurge | Naturalized | |
| FABACEAE | *Acmispon glaber* | Deerweed, California Broom | Native | |
| | *Lupinus bicolor* | Miniature Lupine | Native | |
| | *Lupinus succulentus* | Arroyo Lupine | Native | |
| | *Medicago polymorpha* | California Burclover | Naturalized | |
| | *Melilotus indicus* | Sourclover | Naturalized | |
| | *Trifolium hirtum* | Rose Clover | Naturalized | |
| | *Trifolium willdenovii* | Tomcat Clover | Native | |
| | *Vicia villosa subsp. villosa* | Hairy Vetch, Winter Vetch | Naturalized | |
| GENTIANACEAE | *Zeltnera venusta* | California Centaury, Charming Centaury | Native | |
| GERANIACEAE | *Erodium botrys* | Long-Beak Filaree, Storksbill | Naturalized | |
| | *Erodium cicutarium* | Redstem Filaree | Naturalized | |
| IRIDACEAE | *Sisyrinchium bellum* | Western Blue-Eyed-Grass | Native | |
| JUNCACEAE | *Juncus acutus subsp. leopoldii* | Southwestern Spiny Rush | Native | CNPS 4.2 |
| | *Juncus ambiguus* | Frog Rush | Naturalized | |
| | *Juncus dubius* | Mariposa Rush | Native | |
| JUNCAGINACEAE | *Triglochin scilloides* | Arrow-Head Grass | Native | |
| | *Juncus mexicanus* | Mexican Rush | Native | |
| LAMIACEAE | *Marrubium vulgare* | Horehound | Naturalized | |
| | *Salvia apiana* | White Sage | Native | |
| | *Salvia clevelandii* | Cleveland's Sage | Native | |
| | *Salvia columbariae* | Chia | Native | |
| | *Salvia mellifera* | Black Sage | Native | |
| | *Salvia munzii* | Munz's Sage | Native | CNPS 2.2 |
| LILIACEAE | *Calochortus splendens* | Splendid Mariposa Lily | Native | |
| LYTHRACEAE | *Lythrum hyssopifolia* | Grass-Poly | Naturalized | |
| MALVACEAE | *Hibiscus sp.* | Blue Hibiscus | Ornamental | |
| | *Malva parviflora* | Cheeseweed, Little Mallow | Naturalized | |

| Family | Scientific Name | Common Name | Nativity[1] | Status[2] |
|---|---|---|---|---|
| | *Malvella leprosa* | Alkali-Mallow, White-Weed | Native | |
| | *Sidalcea malviflora* | Checkerbloom, Checkermallow | Native | |
| MELANTHIACEAE | *Toxicoscordion fremontii* | Death Camas | Native | |
| MONTIACEAE | *Calandrinia ciliata* | Red Maids | Native | |
| MYRSINACEAE | *Anagallis arvensis* | Scarlet Pimpernel | Naturalized | |
| | *Anagallis minima* | Chaffweed | Native | |
| NYCTAGINACEAE | *Mirabilis laevis* | Wishbone Plant | Native | |
| ONAGRACEAE | *Epilobium ciliatum* | Willow Herb | Native | |
| OROBANCHACEAE | *Castilleja affinis* | Indian Paintbrush | Native | |
| | *Castilleja exserta subsp. exserta* | Owl's Clover | Native | |
| OXALIDACEAE | *Oxalis pes-caprae* | Bermuda Buttercup | Naturalized | |
| PAPAVERACEAE | *Eschscholzia californica* | California Poppy | Native | |
| PHRYMACEAE | *Mimulus aurantiacus* | Coastal Monkeyflower | Native | |
| | *Mimulus guttatus* | Seep Monkeyflower | Native | |
| PLANTAGINACEAE | *Plantago erecta* | Erect Plantain | Native | |
| POACEAE | *Avena barbata* | Slender Wild Oat | Naturalized | |
| | *Avena fatua* | Wild Oat | Naturalized | |
| | *Brachypodium distachyon* | Purple Falsebrome | Naturalized | |
| | *Bromus diandrus* | Ripgut Grass | Naturalized | |
| | *Bromus hordeaceus* | Soft Chess | Naturalized | |
| | *Bromus madritensis* | Red Brome | Naturalized | |
| | *Cortaderia jubata* | Purple Pampas Grass, Jubata Grass | Naturalized | |
| | *Cynodon dactylon* | Bermuda Grass | Naturalized | |
| | *Festuca microstachys* | California Fescue | Native | |
| | *Festuca myuros* | Rattail Sixweeks Grass | Naturalized | |
| | *Festuca perennis* | Rye Grass | Naturalized | |
| | *Hordeum marinum subsp. gussoneanum* | Mediterranean Barley | Naturalized | |
| | *Hordeum murinum subsp. glaucum* | Smooth Barley | Naturalized | |
| | *Hordeum murinum subsp. leporinum* | Hare Barley | Naturalized | |
| | *Lamarckia aurea* | Toothbrush Grass | Naturalized | |
| | *Melica imperfecta* | Little California Melica | Native | |
| | *Phalaris minor* | Little-Seeded Canary Grass | Naturalized | |
| | *Polypogon monspeliensis* | Annual Beard Grass, Rabbitfoot Grass | Naturalized | |
| | *Schismus barbatus* | Schismus | Naturalized | |
| | *Stipa diegoensis* | San Diego County Needle Grass | Native | CNPS 4.2 |
| | *Stipa pulchra* | Purple Needle Grass | Native | |

| Family | Scientific Name | Common Name | Nativity[1] | Status[2] |
|---|---|---|---|---|
| POLEMONIACEAE | *Linanthus californicus* | Prickly Phlox | Native | |
| | *Linanthus dianthiflorus* | Farinose Ground Pink | Native | |
| POLYGONACEAE | *Chorizanthe fimbriata* | Fringed Spineflower | Native | |
| | *Eriogonum fasciculatum* | California Buckwheat | Native | |
| | *Rumex crispus* | Curly Dock | Naturalized | |
| PRIMULACEAE | *Primula clevelandii var. clevelandii* | Cleveland's Shooting Star | Native | |
| RHAMNACEAE | *Rhamnus crocea* | Spiny Redberry | Native | |
| | *Rhamnus ilicifolia* | Hollyleaf Redberry | Native | |
| ROSACEAE | *Heteromeles arbutifolia* | Hollywood, Toyon | Native | |
| | *Raphiolepis indica* | Indian Hawthorne | Ornamental | |
| RUBIACEAE | *Galium angustifolium* | Narrowly Leaved Bedstraw | Native | |
| SALICACEAE | *Salix laevigata* | Red Willow | Native | |
| | *Salix lasiolepis* | Arroyo Willow | Native | |
| SCROPHULARIACEAE | *Scrophularia californica* | California Figwort | Native | |
| SELAGINELLACEAE | *Selaginella cinerascens* | Ashy Spike-Moss | Native | |
| SIMMONDSIACEAE | *Simmondsia chinensis* | Jojoba | Native | |
| SOLANACEAE | *Nicotiana glauca* | Tree Tobacco | Naturalized | |
| | *Solanum nigrum* | Black Nightshade | Naturalized | |
| | *Solanum parishii* | Parish's Nightshade | Native | |
| TAMARICACEAE | *Tamarix ramosissima* | Saltcedar | Naturalized | |
| THEMIDACEAE | *Bloomeria clevelandii* | San Diego Goldenstar | Native | CNPS 1B.1 |
| | *Bloomeria crocea* | Common Goldenstar | Native | |
| | *Dichelostemma capitatum subsp. capitatum* | Wild Hyacinth, Blue Dicks | Native | |
| TYPHACEAE | *Typha domingensis* | Southern Cattail | Native | |
| VERBENACEAE | *Lantana camara* | Lantana | Ornamental | |
| VIOLACEAE | *Viola purpurea* | Wild Violet | Native | |

1 Native: Occurring naturally in an area; Naturalized: Alien (not native) and reproducing; Ornamental: plants that grown for decorative purposes in gardens and landscape design

2 CESA = California Endangered Species Act; FESA = federal Endangered Species Act
California Native Plant Society (CNPS)

1A = Species presumed extinct.
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing..
2A = Plants Presumed Extirpated in California, but more common elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.
3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

Threat Code Extensions:
.1 = Seriously endangered in California
.2 = Fairly endangered in California
.3 = Not very threatened in California

# APPENDIX C

# WILDLIFE SPECIES OBSERVED

# APPENDIX C – WILDLIFE SPECIES OBSERVED

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| **Invertebrates** | | | |
| Lindahl's Fairy Shrimp | *Branchinecta lindahli* | Anostraca | Branchinectidae |
| Riverside Fairy Shrimp | *Streptocephalus woottoni* | Anostraca | Streptocephalidae |
| Tarantula Hawk | *Hemipepsis sp.* | Hymenoptera | Pompilidae |
| Funereal Duskywing | *Erynnis funerealis* | Lepidoptera | Hesperiidae |
| Afranius Duskywing | *Erynnis afranius* | Lepidoptera | Hesperiidae |
| Western Pygmy-Blue | *Brephidium exilis* | Lepidoptera | Lycaenidae |
| Perplexing (Bramble) Hairstreak | *Callophrys dumetorum* | Lepidoptera | Lycaenidae |
| Bernardino Blue | *Euphilotes bernardino* | Lepidoptera | Lycaenidae |
| Western Tailed-Blue | *Everes amyntula* | Lepidoptera | Lycaenidae |
| Southern (Silvery) Blue | *Glaucopsyche lygdamus australis* | Lepidoptera | Lycaenidae |
| Acmon Blue | *Icaricia acmon* | Lepidoptera | Lycaenidae |
| Marine Blue | *Leptotes marina* | Lepidoptera | Lycaenidae |
| Gray Hairstreak | *Strymon melinus* | Lepidoptera | Lycaenidae |
| California Ringlet | *Coenonympha californica* | Lepidoptera | Nymphalidae |
| Gabb's Checkerspot | *Chlosyne gabbii* | Lepidoptera | Nymphalidae |
| Monarch | *Danaus plexippus* | Lepidoptera | Nymphalidae |
| Quino Checkerspot[1] | *Euphydryas editha quino* | Lepidoptera | Nymphalidae |
| Common Buckeye | *Junonia coenia* | Lepidoptera | Nymphalidae |
| Lorquin's Admiral | *Limenitis lorquini* | Lepidoptera | Nymphalidae |
| West Coast Lady | *Vanessa annabella* | Lepidoptera | Nymphalidae |
| Painted Lady | *Vanessa cardui* | Lepidoptera | Nymphalidae |
| Pale Swallowtail | *Papilio eurymedon* | Lepidoptera | Papilionidae |
| Western Tiger Swallowtail | *Papilio rutulus* | Lepidoptera | Papilionidae |

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| Anise Swallowtail | *Papilio zelicaon* | Lepidoptera | Papilionidae |
| Sara Orangetip | *Anthocharis sara sara* | Lepidoptera | Pieridae |
| Cabbage White | *Pieris rapae* | Lepidoptera | Pieridae |
| Checkered White | *Pontia protodice* | Lepidoptera | Pieridae |
| Spring White | *Pontia sisymbrii* | Lepidoptera | Pieridae |
| Comstock's Fritillary | *Speyeria callippe comstocki* | Lepidoptera | Pieridae |
| Behr's Metalmark | *Apodemia mormo virgulti* | Lepidoptera | Riodinidae |
| Tarantula sp. | *Aphonopelma sp.* | Theraphosidae | Araneae |
| **Reptiles & Amphibians** | | | |
| Western Toad | *Bufo boreas* | Anura | Bufonidae |
| Pacific Chorus Frog | *Pseudacris regilla* | Anura | Hylidae |
| Coast Horned Lizard[5] | *Phrynosoma blainvillii* | Lacertilia | Phrynosomatidae |
| Coastal Whiptail | *Aspidoscelis tigris stejnegeri* | Lacertilia | Teiidae |
| Southern Alligator Lizard | *Elgaria multicarinata* | Squamata | Anguidae |
| Western Fence Lizard | *Sceloporus occidentalis* | Squamata | Phrynosomatidae |
| Side-blotched Lizard | *Uta stansburiana* | Squamata | Phrynosomatidae |
| Red-diamond Rattlesnake[5] | *Crotalus ruber* | Serpentes | Viperidae |
| Common Kingsnake | *Lampropeltis getula* | Squamata | Colubridae |
| Western Rattlesnake | *Crotalus viridis* | Squamata | Viperidae |
| **Birds** | | | |
| Sharp-shinned Hawk | *Accipeter striatus* | Accipitriformes | Accipitridae |
| Cooper's Hawk[6] | *Accipiter cooperii* | Accipitriformes | Accipitridae |
| Red-tailed Hawk | *Buteo jamaicensis* | Accipitriformes | Accipitridae |
| Northern Harrier[5] | *Circus cyaneus* | Accipitriformes | Accipitridae |
| White-tailed Kite[7] | *Elanus leucurus* | Accipitriformes | Accipitridae |
| Turkey Vulture | *Cathartes aura* | Accipitriformes | Cathartidae |

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| White-throated Swift | *Aeronautes saxatalis* | Apodiformes | Apodidae |
| Anna's Hummingbird | *Calypte anna* | Apodiformes | Trochilidae |
| Costa's Hummingbird | *Calypte costae* | Apodiformes | Trochilidae |
| Rufous Hummingbird | *Selasphorus rufus* | Apodiformes | Trochilidae |
| Killdeer | *Charadrius vociferus* | Charadriiformes | Charadriidae |
| Long-billed Curlew | *Numenius americanus* | Charadriiformes | Scolopacidae |
| Rock Pigeon | *Columba livia* | Columbiformes | Columbidae |
| Mourning Dove | *Zenaida macroura* | Columbiformes | Columbidae |
| Greater Roadrunner | *Geococcyx californianus* | Cuculiformes | Cuculidae |
| Merlin[6] | *Falco columbarius* | Falconiformes | Falconidae |
| American Peregrine Falcon[4,7] | *Falco peregrinus anatum* | Falconiformes | Falconidae |
| American Kestrel | *Falco sparverius* | Falconiformes | Falconidae |
| California Quail | *Callipepla californica* | Galliformes | Odontophoridae |
| Bushtit | *Psaltriparus minimus* | Passeriformes | Aegithalidae |
| California Horned Lark[6] | *Eremophila alpestris actia* | Passeriformes | Alaudidae |
| Lazuli Bunting | *Passerina amoena* | Passeriformes | Cardinalidae |
| Blue Grosbeak | *Passerina caerulea* | Passeriformes | Cardinalidae |
| Western Scrub-Jay | *Aphelocoma californica* | Passeriformes | Corvidae |
| American Crow | *Corvus brachyrhynchos* | Passeriformes | Corvidae |
| Common Raven | *Corvus corax* | Passeriformes | Corvidae |
| Southern California Rufous-crowned Sparrow[6] | *Aimophila ruficeps canescens* | Passeriformes | Emberizidae |
| Grasshopper Sparrow[5] | *Ammodramus savannarum* | Passeriformes | Emberizidae |
| Lark Sparrow | *Chondestes grammacus* | Passeriformes | Emberizidae |
| Lincoln's Sparrow | *Melospiza lincolnii* | Passeriformes | Emberizidae |
| Song Sparrow | *Melospiza melodia* | Passeriformes | Emberizidae |
| California Towhee | *Melozone crissalis* | Passeriformes | Emberizidae |

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| Savannah Sparrow | *Passerculus sandwichensis* | Passeriformes | Emberizidae |
| Spotted Towhee | *Pipilo maculatus* | Passeriformes | Emberizidae |
| White-crowned Sparrow | *Zonotrichia leucophrys* | Passeriformes | Emberizidae |
| House Finch | *Haemorhous mexicanus* | Passeriformes | Fringillidae |
| Lawrence's Goldfinch | *Spinus lawrencei* | Passeriformes | Fringillidae |
| Lesser Goldfinch | *Spinus psaltria* | Passeriformes | Fringillidae |
| American Goldfinch | *Spinus tristis* | Passeriformes | Fringillidae |
| Barn Swallow | *Hirundo rustica* | Passeriformes | Hirundinidae |
| Cliff Swallow | *Petrochelidon pyrrhonota* | Passeriformes | Hirundinidae |
| Northern Rough-winged Swallow | *Stelgidopteryx serripennis* | Passeriformes | Hirundinidae |
| Tree Swallow | *Tachycineta bicolor* | Passeriformes | Hirundinidae |
| Red-winged Blackbird | *Agelaius phoeniceus* | Passeriformes | Icteridae |
| Bullock's Oriole | *Icterus bullockii* | Passeriformes | Icteridae |
| Hooded Oriole | *Icterus cucullatus* | Passeriformes | Icteridae |
| Western Meadowlark | *Sturnella neglecta* | Passeriformes | Icteridae |
| Yellow-headed Blackbird[5] | *Xanthocephalus xanthocephalus* | Passeriformes | Icteridae |
| Loggerhead Shrike[5] | *Lanius ludovicianus* | Passeriformes | Laniidae |
| Northern Mockingbird | *Mimus polyglottos* | Passeriformes | Mimidae |
| California Thrasher | *Toxostoma redivivum* | Passeriformes | Mimidae |
| American Pipit | *Anthus rubrescens* | Passeriformes | Motacillidae |
| Wilson's Warbler | *Cardellina pusilla* | Passeriformes | Parulidae |
| Common Yellowthroat | *Geothlypis trichas* | Passeriformes | Parulidae |
| Yellow-breasted Chat[5] | *Icteria virens* | Passeriformes | Parulidae |
| Orange-crowned Warbler | *Oreothlypis celata* | Passeriformes | Parulidae |
| Yellow-rumped Warbler | *Setophaga coronata* | Passeriformes | Parulidae |
| Yellow Warbler[5] | *Setophaga petechia brewsteri* | Passeriformes | Parulidae |

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| House Sparrow | *Passer domesticus* | Passeriformes | Passeridae |
| Blue-gray Gnatcatcher | *Polioptila caerulea* | Passeriformes | Polioptilidae |
| Coastal California Gnatcatcher[2,5] | *Polioptila californica californica* | Passeriformes | Polioptilidae |
| Phainopepla | *Phainopepla nitens* | Passeriformes | Ptilogonatidae |
| European Starling | *Sturnus vulgaris* | Passeriformes | Sturnidae |
| Wrentit | *Chamaea fasciata* | Passeriformes | Sylviidae |
| Rock Wren | *Salpinctes obsoletus* | Passeriformes | Troglodytidae |
| Bewick's Wren | *Thryomanes bewickii* | Passeriformes | Troglodytidae |
| House Wren | *Troglodytes aedon* | Passeriformes | Troglodytidae |
| Hermit Thrush | *Catharus guttatus* | Passeriformes | Turdidae |
| Western Wood-Pewee | *Contopus sordidulus* | Passeriformes | Tyrannidae |
| Pacific-slope Flycatcher | *Empidonax difficilis* | Passeriformes | Tyrannidae |
| Ash-throated Flycatcher | *Myiarchus cinerascens* | Passeriformes | Tyrannidae |
| Black Phoebe | *Sayornis nigricans* | Passeriformes | Tyrannidae |
| Say's Phoebe | *Sayornis saya* | Passeriformes | Tyrannidae |
| Western Kingbird | *Tyrannus verticalis* | Passeriformes | Tyrannidae |
| Cassin's Kingbird | *Tyrannus vociferans* | Passeriformes | Tyrannidae |
| Least Bell's Vireo[1,3] | *Vireo bellii pusillus* | Passeriformes | Vireonidae |
| Warbling Vireo | *Vireo gilvus* | Passeriformes | Vireonidae |
| Plumbeous Vireo | *Vireo plumbeus* | Passeriformes | Vireonidae |
| Nuttall's Woodpecker | *Picoides nuttallii* | Piciformes | Picidae |
| Short-eared Owl[5] | *Asio flammeus* | Strigiformes | Strigidae |
| Western Burrowing Owl[5] | *Athene cunicularia hypugaea* | Strigiformes | Strigidae |
| Barn Owl | *Tyto alba* | Strigiformes | Tytonidae |
| Double-crested Cormorant[6] | *Phalacrocorax auritus* | Suliformes | Phalacrocoracidae |

| Common Name | Scientific Name | Order | Family |
|---|---|---|---|
| **Mammals** | | | |
| Mule Deer | *Odocoileus hemionus* | Artiodactyla | Cervidae |
| Coyote | *Canis latrans* | Carnivora | Canidae |
| Bobcat | *Lynx rufus* | Carnivora | Felidae |
| San Diego Black-tailed Jackrabbit[5] | *Lepus californicus bennettii* | Lagomorpha | Leporidae |
| Desert Cottontail | *Sylvilagus audubonii* | Lagomorpha | Leporidae |
| Woodrat sp. | *Neotoma sp.* | Rodentia | Muridae |
| California Ground Squirrel | *Spermophilus beecheyi* | Rodentia | Sciuridae |

[1] Federally Endangered Species
[2] Federally Threatened Species
[3] State Endangered Species
[4] Delisted Species
[5] CDFW Species of Special Concern
[6] CDFW Watch List Species
[7] CDFW Fully Protected Species

# APPENDIX D

# JURISDICTIONAL DELINEATION REPORT

# OTAY MESA CONVEYANCE AND DISINFECTION SYSTEM PROJECT
# SAN DIEGO, CALIFORNIA

# DRAFT JURISDICTIONAL DELINEATION REPORT FOR WATERS OF THE U.S., STATE OF CALIFORNIA

February 2015

# OTAY MESA CONVEYANCE AND DISINFECTION SYSTEM PROJECT
# SAN DIEGO, CALIFORNIA

# DRAFT JURISDICTIONAL DELINEATION REPORT FOR WATERS OF THE U.S., STATE OF CALIFORNIA

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February 2015

# TABLE OF CONTENTS

**Section** **Page**

ACRONYMS AND ABBREVIATIONS ..... v

I. SUMMARY ..... 1

II. INTRODUCTION ..... 2
- A. Delineation Survey Area Location ..... 2
- B. Description of Project ..... 3
- C. Purpose of Delineation ..... 7

III. REGULATORY FRAMEWORK ..... 8
- A. Federal Regulations ..... 8
- B. State Regulations ..... 9

IV. ENVIRONMENTAL SETTING ..... 10
- A. Vegetation and Cover Types ..... 10
- B. Topography ..... 11
- C. Geology ..... 11
- D. Climate ..... 12
- E. Watershed ..... 13

V. JURISDICTIONAL DELINEATION METHODOLOGY ..... 13
- A. Formal Field Delineation ..... 15
- B. Delineation of Federal Waters ..... 15
- C. Delineation and Survey for Waters of the State ..... 30

VI. RESULTS ..... 32
- A. Riparian and Wetland Plant Communities ..... 32
- B. Soils ..... 35
- C. Hydrology ..... 36
- D. Potential Waters of the U.S. and State ..... 37
- E. Jurisdictional Determination for Waters of the U.S. ..... 38
- F. Nonjurisdictional Features of the U.S. ..... 42

VII. REFERENCES CITED ..... 43

ATTACHMENTS

A Figures

B Wetland Determination Data Forms – Arid West Region (Version 2.0) (to be included with Final Version of Report)

C U.S. Army Corps of Engineers Los Angeles District November 25, 1997, Special Public Notice

D Preliminary JD Form (to be included with Final Version of Report)

E Electronic Waters Upload Sheet (CD-ROM only) (to be included with Final Version of Report)

## LIST OF FIGURES

**Figures**


1 Regional Map
2 Project Vicinity
3 Survey Area
4 Vegetation Communities
5 Soils
6 Watersheds
7 Surface Hydrology
8 Potential Jurisdictional Waters of the U.S. and State (Overview)
8a Potential Jurisdictional Waters of the U.S. and State (Detail)
8b Potential Jurisdictional Waters of the U.S. and State (Detail)
8c Potential Jurisdictional Waters of the U.S. and State (Detail)
8d Potential Jurisdictional Waters of the U.S. and State (Detail)
8e Potential Jurisdictional Waters of the U.S. and State (Detail)
8f Potential Jurisdictional Waters of the U.S. and State (Detail)
8g Potential Jurisdictional Waters of the U.S. and State (Detail)
8h Potential Jurisdictional Waters of the U.S. and State (Detail)
8i Potential Jurisdictional Waters of the U.S. and State (Detail)
8j Potential Jurisdictional Waters of the U.S. and State (Detail)
8k Potential Jurisdictional Waters of the U.S. and State (Detail)
8l Potential Jurisdictional Waters of the U.S. and State (Detail)
8m Potential Jurisdictional Waters of the U.S. and State (Detail)

8n Potential Jurisdictional Waters of the U.S. and State (Detail)
8o Potential Jurisdictional Waters of the U.S. and State (Detail)
8p Potential Jurisdictional Waters of the U.S. and State (Detail)
8q Potential Jurisdictional Waters of the U.S. and State (Detail)
8r Potential Jurisdictional Waters of the U.S. and State (Detail)
8s Potential Jurisdictional Waters of the U.S. and State (Detail)
8t Potential Jurisdictional Waters of the U.S. and State (Detail)
9 Representative Photographs 1 and 2
10 Representative Photographs 3 and 4
11 Representative Photographs 5 and 6
12 Representative Photographs 7 and 8
13 Representative Photographs 9 and 10
14 Representative Photograph 11

## LIST OF TABLES

**Table** **Page**


1 Survey Dates and Personnel Conducting the Formal Field Delineation..... 15
2 Previous Floristic Field Surveys Completed within the Survey Area ..... 19
3 Survey Results for Parameters of Potential Jurisdictional Waters of the U.S. and State in the Form of Wetland Occurring within the Survey Area..... 32
4 Hydrophytic Vegetation Communities Occurring within the Survey Area..... 33
5 Hydrophytic Plant Species Observed within the Survey Area ..... 34
6 Hydric Soils Occurring within the Survey Area ..... 35
7 Potential Jurisdictional Waters of the U.S. and State Occurring within the Survey Area ..... 38

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| CalEPA | California Environmental Protection Agency |
| Caltrans | California Department of Transportation |
| CBI | Conservation Biology Institute |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CDFW | California Department of Fish and Wildlife |
| CERES | California Environmental Resources Evaluation System |
| CEQA | California Environmental Quality Act |
| CFGC | California Fish and Game Code |
| CFR | Code of Federal Regulations |
| City | City of San Diego |
| CWA | Clean Water Act |
| CWC | California Water Code |
| CWN | California Watershed Network |
| District | Otay Water District |
| ESL | Environmentally Sensitive Lands |
| EO | Executive Order |
| GIS | geographic information system |
| GPS | Global Positioning System |
| HA | Hydrologic Area |
| HSA | Hydrologic Subarea |
| HU | Hydrologic Unit |
| HUC | Hydrologic Unit Code |
| JD | Jurisdictional Determination |
| JDR | Jurisdictional Delineation Report |
| MHPA | Multiple Habitat Planning Area |
| MGD | Million Gallons per Day |
| NOAA | National Oceanic and Atmospheric Administration |
| NRC | National Research Council |
| NRCS | Natural Resources Conservation Service |
| NWPL | National Wetland Plant List |
| NTCHS | National Technical Committee for Hydric Soils |
| ORM | Operations Regulatory Module |
| OHWM | ordinary high water mark |

| | |
|---|---|
| Porter-Cologne | Porter-Cologne Water Quality Control Act |
| RGL | Regulatory Guidance Letter |
| RWQCB | Regional Water Quality Control Board |
| SANDAG | San Diego Association of Governments |
| SCCWRP | Southern California Coastal Water Research Project |
| SCS | Soil Conservation Service |
| SDCFCD | San Diego County Flood Control District |
| SDCWA | San Diego County Water Authority |
| SDHS | San Diego Historical Society |
| SDLDC | San Diego Land Development Code |
| SDMC | San Diego Municipal Code |
| SPN | Special Public Notice |
| SR | State Route |
| SWRCB | State Water Resources Control Board |
| U.C. Davis | University of California at Davis |
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| WRCC | Western Regional Climate Center |

# I. SUMMARY

The United States and Mexico established the International Boundary Commission in 1889. The Water Treaty of 1944 expanded the duties and the responsibilities of this international body and renamed it the International Boundary and Water Commission (IBWC), or CILA for the Mexican section. The IBWC jurisdiction extends to the parts of the Colorado River that forms the land boundary between the United States and Mexico and administers the many boundary and water-rights treaties and agreements between the two nations.

Otay Water District (District) and the IBWC are proposing the construction of a 48 to 54-inch-diameter pipeline, and associated booster pump station and disinfection facility, for the transmission of treated (potable) desalinated seawater from the United States (U.S.)/Mexico international border to the District's 571-1 (Roll) Reservoir on Otay Mesa (Proposed Project). The Proposed Project is intended to be part of the District's conveyance and treatment infrastructure, which includes water pumping facilities and treatment and disinfection facilities. Water would be supplied from a new desalination plant proposed for location in Rosarito Beach, Baja California, Mexico. Water sourced from the desalination plant in Mexico would expand the District's long-term potable water supply portfolio and reduce dependence on imported water from Northern California and the Colorado River. The District would receive, treat, and convey up to 50 million gallons per day (MGD), or 35,000 gallons per minute (GPM), of water produced by the desalination plant, helping to meet demands within the service area. The District's involvement begins in the U.S. at the U.S./Mexico border. The District is not involved in the design or construction of the pipeline south of the border, nor the construction of the desalination plant.

The increased flexibility provided by the new pipeline would substantially increase the reliability of the District to supply its customers: (1) in the event of an Aqueduct shut-down on one or more of San Diego County Water Authority (SDCWA) potable water pipelines; (2) by providing an alternative to the SDCWA-supplied water through the connection to desalinated seawater from the south in the event of reduced availability, rising prices, or both.

This jurisdictional delineation report (JDR) outlines and summarizes the latest federal and state guidance and methodologies employed in conducting a formal delineation for jurisdictional waters of the U.S. and state; the results of the fieldwork; and the amount, type, and location of the formally delineated potential jurisdictional waters occurring within the approximately 52.96-acre delineation survey area. The delineation survey area is also synonymous with the limits of construction, including all temporary impact areas (project area [e.g., project footprint]).

Approximately 0.259 acre[1] of potential jurisdictional waters of the U.S.[2,3] and state[4] were formally delineated within the survey area. Of this approximate 0.259 acre of delineated aquatic features, approximately 0.035 acre is wetlands (in the form of southern willow scrub) and approximately 0.100 acre is nonwetland (unvegetated) "other waters"[5] (in the form of nonvegetated drainage feature and culverts) of the U.S. and state; and 0.123 acres is composed of riparian habitat jurisdictional under the State only.

This JDR provides the primary information for the District to achieve compliance with Clean Water Act (CWA) Section 404(b)(1) Guidelines[6,7] and all relevant state and municipal resource codes, applicable regulations, and law[8] if it is determined that any implementation of a project would result in regulated activities occurring within jurisdictional waters of the U.S. and/or state.

## II. INTRODUCTION

### A. Delineation Survey Area Location

The approximately 52.96-acre delineation survey area is located within a semi-developed commercial and industrial area of an unincorporated portion of southwestern San Diego County approximately 0.75 mile east of the Otay Mesa Port of Entry in the community of Otay Mesa and City of San Diego, California (Figures 1 and 2 [all figures are included in Attachment A]).

---

1 All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

2 For this proposed project, jurisdictional waters of the U.S. are under the purview of the U.S. Army Corps of Engineers (USACE), with oversight by the U.S. Environmental Protection Agency (USEPA), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), if applicable. Final acreages of jurisdictional waters of the U.S. are based on the jurisdictional determination (JD) process per the March 30, 2007, USACE Jurisdictional Determination Form Instructional Guidebook; the June 5, 2007, Approved JD Form; the June 5, 2007, Joint Guidance Memorandum; the December 2, 2008, Guidance Memorandum; and Regulatory Guidance Letter (RGL) 08-02 (if RGL 08-02 is deemed applicable and appropriate [i.e., the permit applicant or other "affected party" can decline to request and obtain an Approved JD and elect to use a Preliminary JD instead] for nonbinding written indication that there may be waters of the U.S., including wetlands, on a parcel or indications of the approximate location[s] of waters of the U.S. or wetlands on a parcel).

3 Jurisdictional waters of the U.S. include jurisdictional waters of the state.

4 Through regulatory definition and/or interpretation, state jurisdiction(s) often exceed, in lateral extent and area, federal jurisdiction(s). Therefore, jurisdictional waters of the U.S. include waters of the state. Although federal and state jurisdictions do overlap, they would remain distinct for regulatory administration and permitting purposes.

5 33 Code of Federal Regulations (CFR) 328.3(a)(3) and 33 328.3(e).

6 40 CFR Part 230.

7 Clean Water Act (CWA) Section 404(b)(1) Guidelines, established by USEPA, constitute the substantive environmental criteria used in evaluating activities regulated under Section 404 of the CWA.

8 Pursuant to Section CFGC 1600 *et seq*. and CWC Section 13000 *et seq*.

The survey area location is within the U.S. Geological Survey (USGS) Otay Mesa Quadrangle (7.5-minute series [USGS 1975]) which consists of publically (including portions of the City of San Diego and federal right-of-ways [along Alta Road]) and privately owned parcels The survey area is generally oriented in a north-south orientation with its northern extent at the 571-1 (Roll) Reservoir, adjacent to the George F. Bailey Detention Facility (approximately 3-miles north of the U.S.-Mexico international border [Border]) to its southern extent, adjacent to the border (Figure 3).

Three potential alignments are under consideration. All three alignments begin at the Border (Township 18 South, Range 01 East, Section 32) and head north to Paseo de la Fuente and heads northwest to connect with Alta Road where they head north to the Roll Reservoir (Township 18 South, Range 01 East, Section 19).

## B. Description of Project

Three conveyance pipeline alignment alternatives have been identified beginning at the U.S./Mexico border and ending at Roll Reservoir. All three Alternative Alignments would begin at the U.S./Mexico border, approximately 300 linear feet (LF) east of existing San Diego Gas & Electric (SDG&E) power transmission lines and easement. All three Alternative Alignments would share a common segment, comprising roughly the northern half of the entire pipeline route, starting at approximately 550 feet east of where the alignments would cross an existing SDG&E 24-inch gas pipeline, continuing northwesterly to Roll Reservoir. Other infrastructure improvements including a metering station, potential pump station, and disinfection facility would be constructed if necessary.

The proposed desalination plant is envisioned to produce 100 MGD of desalinated sea water and include infrastructure supporting up to 100 MGD of desalinated sea water production. The District is not involved in the design and construction of the desalination plant. The District's involvement in the project begins at the United States-Mexico border, where excess water from the plant could be made available to the District's service area. The proposed pipeline would convey the desalinated water from the border to Roll Reservoir.

The planned Rosarito Desalination Plant located in Rosarito, Baja California, Mexico, will be owned and operated by NSC Agua, a joint venture of the Mexican company Norte Sur Agua and Cayman Island company Consolidated Water Company. The District is in negotiations with NSC Agua to purchase approximately 20-25 MGD initially and ultimately to purchase up to 50 MGD of desalinated seawater produced at the planned Rosarito Desalination Plant that NSC Agua is

planning on constructing. Negotiations on the agreement between NSC Agua and the District are ongoing.

This water would take the place of up to 70 percent of the water the District currently imports from Northern California and the Colorado River. A 25-mile pipeline will be constructed in Mexico to move water from the desalination facility in Rosarito Beach to serve potential customers in Mexico and the U.S. On the U.S. side of the border, the District is proposing the construction of an approximately 4-mile pipeline and associated facilities including a meter station, pump station, disinfection facility, and outfall structure.

## Project Components

*Proposed Alternative Alignment 1*

Alternative Alignment 1 proposes a route for the potable water transmission pipeline with a length of approximately 21,809 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border connection point approximately 300 LF east of the SDG&E power transmission lines and easement and continue northwesterly for approximately 569 LF before turning approximately 90 degrees southwesterly for approximately 614 LF along an unpaved dirt road. It would then turn northwest again at approximately 90 degrees and follow a dirt road for approximately 2,889 LF around a curve and a sharp right turn north, slightly east of the connection with the future alignment of Lone Star Road. From that connection, the proposed pipeline would continue along and within the right-of-way of future Lone Star Road for approximately 4,211 LF until it reaches the existing Paseo de la Fuente (southerly cul-de-sac). The proposed pipeline would then continue along and within the paved Paseo de la Fuente for approximately 2,869 LF until it reaches the intersection with Alta Road. From the intersection of Alta Road and Paseo de la Fuente, the proposed pipeline would continue north for approximately 8,659 LF in the paved roadway to an existing dirt roadway that provides access to Roll Reservoir for 1,999 LF (Figure 3).

*Proposed Alternative Alignment 2*

Alternative Alignment 2 proposes a route for the potable water transmission pipeline with a length of approximately 21,404 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 1,176 LF. At this point the proposed conveyance pipeline would cross beneath the existing SDG&E power transmission lines and easement and continue due west for approximately 377 LF. The proposed

conveyance pipeline would then turn again to the northwest for approximately 1,270 LF, before turning due west again for approximately 842 LF to the point where all three proposed Alternative Alignments would join, which is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alternative Alignment 1 to its termination point at Roll Reservoir (Figure 3).

*Proposed Alternative Alignment 3*

Alternative Alignment 3 proposes a route for the potable water transmission pipeline with a length of approximately 22,581 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and would continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 2,448 LF. It would then turn due west, crossing beneath the SDG&E power transmission lines and easement, and continue for approximately 1,218 LF, until it is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alternative Alignment 1 to its termination point at Roll Reservoir (Figure 3).

*Proposed Disinfection Facility*

A disinfection facility is proposed at one of four potential locations along the conveyance pipeline Alternative Alignments, which includes a potential location at the U.S./Mexico border, adjacent to the metering station; one potential location adjacent to the proposed conveyance pipeline (along the common segment) in an existing disturbed area just east of Alta Road near the intersection of Alta Road and Donovan State Prison Road; and two potential locations around the perimeter of Roll Reservoir

*Proposed Metering Station*

A metering station is proposed near the U.S./Mexico border, slightly north of the connection point. The proposed location for the metering station would be located on the east side of the conveyance pipeline.

*Proposed Pump Station*

It is uncertain at this time if the potable water (via the conveyance pipeline) would flow by gravity or if a pump station would be required to convey water to Roll Reservoir. If the water is delivered to the U.S./Mexico border with a hydraulic grade line of approximately 800 feet or more (for sufficient pressure), then the water would flow by gravity to Roll Reservoir and a

pump station would not be required. If the required pressure is not provided (terms yet to be agreed upon in a Water Purchase Agreement), then a pump station would likely be required. If a pump station is required, a potential location has been identified near the U.S./Mexico border (within the same footprint as the previously described metering station, north of the connection point).

*Proposed Outfall Structure for Non-Spec Water into O'Neal Canyon*

Water quality would be monitored at the desalination plant; in the conveyance pipeline in between the plant and the U.S./Mexico border; and in the District's pipeline between the border and Roll Reservoir. If delivered water falls outside the specified levels of the Water Purchase Agreement (non-spec water), the District would discharge this water into O'Neal Canyon at an outfall structure located south of Roll Reservoir and west of Alta Road. The water would be discharged at a rate typical of the flow rate during a rain event.

## Construction

Conveyance Pipeline Alternative Alignments

The proposed conveyance pipeline would be constructed using open-trench methods. Trenches would be approximately 10 feet deep and approximately 8 feet wide when the installation is within existing paved streets (trenches are shored). When installation is outside of paved roadways, the trenches would be approximately 10 feet deep and approximately 28 feet wide (trenches are sloped). An excavator would be used to dig the trenches and load materials into a truck. It is also assumed that the average trenching distance would be approximately 120 feet during an 8-hour work day. Based on the average trenching distance of approximately 120 feet per day, the construction period for the proposed conveyance pipeline would be approximately 9 to 10 months. Approximately 12 construction workers would undertake construction of the proposed conveyance pipeline.

To be conservative, it is assumed that the Proposed Project would be constructed prior to other approved development in the area (specifically the Otay Crossings Commerce Park project), and would be responsible for improving the common portion of Lone Star Road to its ultimate grade prior to installation of the conveyance pipeline. After conveyance pipeline installation, the future roadway surface would be covered with gravel and the sides revegetated, until the other approved development projects are built.

Additional Project Infrastructure

In addition to the construction workers that would undertake construction of the proposed conveyance pipeline, approximately six construction workers would be needed for the proposed metering station, approximately 20 construction workers for the proposed disinfection facility (if required), and approximately 20 construction workers for the proposed pump station (if required). Construction methods of the metering station, pump station, disinfection facility, and outfall structure would be similar for Alternative Alignments 1, 2, and 3.

## C. Purpose of Delineation

The purpose of this jurisdictional delineation is to identify the absence and/or presence (including the type, location, boundaries, and acreages) of potential jurisdictional waters of the U.S. and state (including federal[9] and state[10] defined wetlands) within the survey area. Once the presence or absence of potential jurisdictional waters is formally delineated, the following can occur:

a. The results of this JDR can be used by the requisite federal agencies (e.g., U.S. Army Corps of Engineers [USACE] and U.S. Environmental Protection Agency [USEPA]) to conduct the appropriate jurisdictional determination (JD) (please see Section VIE, below).

b. The results of this JDR can be verified by the requisite state agencies (e.g., California Department of Fish and Wildlife [CDFW]) to concur about the amount of jurisdictional waters (including the type of waters) that are under their regulatory administration.

c. The results of this JDR can be used to support and assist the District and IBWC with land management decisions with regard to potential regulated activities (including compensatory mitigation) occurring within potential jurisdictional waters of the U.S. and state.

d. This JDR can be used to make proactive changes to any project designs proposed by the District and IBWC.

[9] Per 33 CFR 328.3(b), 40 CFR 230.3(t), the Corps of Engineers Wetlands Delineation (1987 Manual), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008 Supplement) (Environmental Laboratory 2008).

[10] E.g., CCR Section 13577, California Wetland and Riparian Area Protection policy (http://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.shtml).

e. The results of this JDR can provide the primary information for the District to achieve authorizations, permits, and compliances with all relevant federal and state resource codes and laws, as detailed below.

## III. REGULATORY FRAMEWORK

Waters of the U.S. and state (including wetlands and other aquatic environments/ habitats) are regulated under the following federal and state laws, as applicable to the survey area.

### A. Federal Regulations

#### U.S. Army Corps of Engineers

Pursuant to Section 404 of the CWA, USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 Code of Federal Regulations (CFR) 328 (Definitions).[11] USACE, with oversight by USEPA, has the principal authority to issue CWA Section 404 Permits.

#### Regional Water Quality Control Board

Pursuant to Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB [Region 9]) certifies that the discharge will comply with state water quality standards. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

#### Executive Order 11990

Pursuant to Executive Order 11990, each federal agency is responsible for preparing implementing procedures for carrying out the provisions of the Executive Order (EO). The purpose of this EO is to "minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for any activity located in wetlands, unless the head of the agency finds that there is no practical alternative to such activity, and the proposed action includes all practical measures to minimize harm to wetlands that may result from such actions. In making this finding, the head of the agency may take into account

[11] 51 Federal Register (FR) 41250, November 13, 1986, as amended at 58 FR 45036, August 25, 1993.

economic, environmental, and other pertinent factors. Each agency must also provide opportunity for early public review of any plans or proposals for new construction in wetlands.

## B. State Regulations

### California Department of Fish and Wildlife

Pursuant to Section 1600 *et seq*. of the California Fish and Game Code (CFGC), CDFW regulates activities of an applicant's project that would substantially alter the flow, bed, channel, or bank of streams or lakes, unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 *et seq*. as the "bed, channel, or bank of any river, stream,[12] or lake designated by CDFW in which there is, at any time, an existing fish or wildlife resource or from which these resources derive benefit."[13] However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.[14]

For aquatic features within arid and semi-arid climactic regions, CDFW provides specific guidance concerning its regulatory administration over jurisdictional waters of the state in California Code of Regulations (CCR) Title 14 Section 720 (Designation of Waters of Department Interest):

> For the purpose of implementing Sections 1601 and 1603 of the CFGC, which requires submission to [CDFW] of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct, or change the natural flow or bed of any river, stream, or lake designated by CDFW, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds, *which may have intermittent flows of water*, are hereby designated for such purpose. [Italics added.]

[12] The California Code of Regulations (CCR) (Title 14 CCR 1.72) defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

[13] This also includes the habitat upon which they depend for continued viability (CFWC Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

[14] Jurisdictional waters of the state include jurisdictional waters of the U.S. Federal and state jurisdictions do overlap, but would remain distinct for regulatory administration and permitting purposes.

### Regional Water Quality Control Board

Pursuant to Section 13000 *et seq*. of the California Water Code (CWC) (the 1969 Porter-Cologne Water Quality Control Act [Porter-Cologne]), the RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material into waters of the state, including "isolated" waters and/or wetlands (e.g., vernal pools and seeps), saline waters, and groundwater within the boundaries of the state (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the state, and directs the RWQCB to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region.[15] CWC Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Water Quality Control Plan for the San Diego Basin (RWQCB Region 9), as amended, is designed to maintain, preserve, and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 9 (RWQCB 1994). Designated beneficial uses of state waters that may be protected against degradation include preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.[16]

## IV. ENVIRONMENTAL SETTING

### A. <u>Vegetation and Cover Types</u>

The survey area consists of a mix of disturbed, developed, and natural lands occurring within (and surrounding the survey area). The survey area includes graded dirt service roads, ad-hoc roads and trails, and undeveloped native and nonnative grassland throughout the survey area. The survey area also includes a road rut and small drainages; seeps that support scrub wetland, also occur within and near the center of the survey area. Within the western and eastern extents of the survey area are light industrial developments and paved roads (Figure 4).

[15] CWC Section 13050(j).

[16] CWC Section 13050(f). Specific to species, uses of water that support habitats necessary, at least in part, for the survival of federal or state-listed species, and the migration, reproduction, and early development of aquatic species, are also evaluated under the Basin Plan (RWQCB 1994).

North, east, and west of the survey area are additional industrial properties scattered amidst undeveloped native and nonnative grasslands. Adjacent property to the south includes an access area between the international border fence and the secondary border fence used by U.S. Customs and Border Protection personnel. South of the survey area is the City of Tijuana in Mexico, with the adjacent Tijuana International Airport to the southeast and associated industrial developed areas.

## B. Topography

Topography within the survey area is characterized by generally undulating terrain, with no major geomorphic features such as canyons or mountains, and an average elevation ranging between approximately 470 and 550 feet above mean sea level with a flat aspect of the mesa with the central drainage flowing across the project footprint from northeast to south into Mexico. The survey area supports relictual[17] low broad-based hummocks (locally called mima mounds) which contribute to the development of vernal pools (Bowman 1973; USGS 1975; Bauder 1986; Witham et al. 1998).

## C. Geology

The survey area is located in the San Diego County coastal section of the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast-trending structural block, and intervening fault zones, that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles Basin. The total width of the province is approximately 225 miles, with a maximum land-bound width of 65 miles. Coastal areas of the Peninsular Ranges Geomorphic Province in San Diego County, including the survey area, are typically overlain by a sequence of marine and nonmarine sedimentary strata (USGS 2002; Caltrans 2010).

The survey area is generally underlain by the Otay Formation. The Otay Formation is composed of poorly graded and poorly indurated (hardened or cemented) sandstone and claystone. The claystone is composed almost exclusively of bentonite, which creates the potential for the expansiveness of the Otay Formation soils. Bentonite is clay formed by the decomposition of volcanic ash, having the ability to absorb large quantities of water and to expand to several times its normal volume. Additionally, this soil has a very low intrinsic permeability that greatly restricts the movement of groundwater making it almost impermeable (USGS 2002; Caltrans 2010).

[17] Based upon the number of roads and development occurring within and immediately surrounding the survey area it is likely that the land occurring within the survey area has been previously graded with native topsoil likely mixed with and/or replaced by engineered fill.

Subsurface boring within 0.25-mile of the survey area revealed a relatively thin 1- to 2-foot mantle of topsoil consisting of slightly organic silty clayey sands and clay lenses that overlies the majority of the survey area. Native soils of the sedimentary origin belonging to the Otay Formation underlie this mantle. These soils were found to consist of sands and silty and clayey sands that locally were indurated and thus were classified as sandstones and/or siltstones. The bottoms of the drainage features within the survey area are composed of alluvial soils derived from local sources (Bowman 1973; Caltrans 2010) (Figure 5).

## D. Climate

The climate of San Diego County is characterized as Mediterranean and typically has hot, dry summers, and cooler, wetter winters. The climate of the City of San Diego is dominated by the semi-permanent Pacific high-pressure cell located over the Pacific Ocean. This high-pressure cell drives the dominant onshore circulation, maintaining clear skies for much of the year (NOAA 2013; WRCC 2013).

Summers in the region are typically warm and dry, and winters are mild with occasional rainy periods. The mean temperature for the City is approximately 64 degrees Fahrenheit (°F), and the mean maximum and mean minimum temperatures are approximately 71°F and 58°F, respectively (daytime temperatures rarely exceed 95°F, and nighttime temperatures usually remain above freezing in the winter). Average annual rainfall for Lindbergh Field (located approximately 18 miles northwest of the survey area) is 10.41 inches. County rainfall patterns can be subject to extreme variations from year to year and longer-term wet and dry cycles. According to the National Weather Service, official precipitation for the City averages approximately 11 inches annually (with approximately 85% of the precipitation falling November through March. The average annual rainfall for the survey area is 11.32 inches (Caltrans 2013; NOAA 2013; SDCWA 2013).

The active climatological station closest to the survey area monitors temperature and precipitation is the Chula Vista Station (COOP ID 041758). This station has been recording climatological data daily since October 1918 (WRCC 2013).[18] The mean annual temperature recorded at the Chula Vista Station ranges from a minimum of 53.5°F to a maximum of 68.5°F. Mean annual rainfall measured at the Chula Vista Station is 9.73 inches (WRCC 2013).

[18] The Chula Vista Station is located in Chula Vista, California, approximately 9 miles northwest (along the coast) of the survey area at approximately 33.640764–117.085164 (WRCC 2012).

## E. Watershed

The survey area is located within two main Hydrologic Units:

1. The southwestern portion of the approximate 1,721.3-square-mile Cottonwood-Tijuana Watershed (Hydrologic Unit Code [HUC]: 18070305)
2. The southwestern portion of the approximate 1,554.4-square-mile San Diego Watershed (HUC: 18070304)

The Cottonwood-Tijuana and San Diego Watersheds encompass the approximately 467-square-mile Tijuana Hydrologic Unit (HU [911.00]) and the 154-square mile Otay HU, which then encompasses the approximately 31-square-mile Tijuana Valley Hydrologic Area (HA [911.10]), and the approximately 15-square-mile Water Tanks Hydrologic Subarea (HSA [911.12]).

All watersheds are located within the approximately 3,882-square-mile RWQCB, Region 9, San Diego Hydrologic Basin Planning Area (Basin Plan) (RWQCB 1994 [as amended]) (Figure 6). The Cottonwood-Tijuana HU, Tijuana Valley HA and Water Tanks HSA are arbitrarily divided by the U.S.-Mexico International Boundary. Drainage within the survey area flows in a southern direction, into Mexico, via a storm water culvert situated at the Border Fence.

There are no water bodies occurring within the survey area that are listed on the CWA 303(d) List (impaired water bodies) (SWRCB 2013).[19]

# V. JURISDICTIONAL DELINEATION METHODOLOGY

Prior to conducting the field delineation for potential jurisdictional waters of the U.S. and state (including wetlands) within the survey area, AECOM ecologist Joshua Zinn reviewed previous formal delineations of the survey area, historical land use of the survey area, local and regional climactic data, and areas with topographical configurations and vegetative signatures occurring within the survey area that may suggest the potential or presence of jurisdictional waters of the U.S. and state at the time of the field survey. Post-delineation data were also compared and confirmed. This information was evaluated by consulting the following available sources:

[19] Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. Additionally, Section 303 of the CWA requires states to identify and make a list of surface water bodies that are polluted (impaired). This list is referred to as the " 303(d) List of Water Quality Limited Segments" (SWRCB 2012).

- 7.5-minute Otay Mesa Quadrangle (USGS 1975)
- The web-based National Hydrography Dataset (USGS 2013a)
- The web-based National Water Information System (USGS 2013b)
- 2010 aerial maps of the survey area (U.S. Department of Agriculture [USDA] National Agriculture Imagery Program) (USDA 2010a)
- The web-based Plant Database (USDA 2013)
- The web-based National Wetland Plant List (NWPL) (USACE 2013)
- The web-based National Wetlands Inventory Wetlands Mapper (USFWS 2013)
- The web-based Water Quality Planning Tool (Caltrans 2013)
- The web-based California Environmental Resources Evaluation System (CERES), California Wetlands Information System Wetland Databases and Inventories (CERES 2013)
- The web-based Information Center for the Environment (U.C. Davis 2013a)
- The Soil Survey of San Diego County (Bowman 1973)
- The web-based Natural Resources Conservation Service (NRCS) Soils Website (NRCS 2013a)
- The web-based NRCS Web Soil Survey (NRCS 2013b)
- The web-based Soil Survey Geographic Database (SSURGO) (NRCS 2013c)
- The web-based U.S. General Soil Map (STATSGO) (NRCS 2013d)
- The web-based U.S. Hydric Soil Technical Notes (NRCS 2013e)
- The web-based National List of Hydric Soils (NRCS 2013f)
- The web-based Official Soil Series Descriptions (NRCS 2013g)
- The web-based California Soil Resource Lab (U.C. Davis 2013b)
- The web-based Western Regional Climate Center (WRCC 2013a)
- The web-based National Weather Service Climate Office (NOAA 2013a)
- The web-based Precipitation Frequency Data Server (NOAA 2013b)
- The web-based Digital Watershed (USEPA 2013)
- The web-based California Watershed Portal (CalEPA 2012)
- The web-based California Watershed Network (CWN 2013)
- The web-based Office of Water Programs, Water Quality Planning Tool (CSUS 2013)
- The web-based Project Clean Water San Diego (Project Clean Water 2013)
- The web-based San Diego County Geographic Information System (GIS) site (SANDAG 2013)
- The web-based San Diego County Flood Control District (SDCFCD 2013)
- The web-based San Diego County Watershed Network (2013)
- The web-based San Diego County Water Authority (SDCWA 2013)

## A. Formal Field Delineation

An AECOM ecologist initially conducted a general field reconnaissance of the survey area identifying areas (including the limits) supporting potential federal and state jurisdictional waters (including wetlands) (Table 1). After the initial field reconnaissance was completed, a formal delineation of jurisdictional waters (including wetlands) occurring within the survey area. The dates, AECOM personnel, and type of activity conducted for this formal field jurisdictional delineation are listed in Table 1.

**Table 1**
**Survey Dates and Personnel Conducting the Formal Field Delineation**

| Dates | Personnel | Activity |
|---|---|---|
| September 6, 2013 | Joshua Zinn | General field reconnaissance |
| September 9, 2013 | Joshua Zinn and Lanika Cervantes | Field survey, formal delineation fieldwork, and vegetation mapping |
| September 10, 2013 | Joshua Zinn | Field survey, formal delineation fieldwork, and vegetation mapping and confirming plants to species level. |
| September 11, 2013 | Joshua Zinn | Groundtruthing and post-delineation fieldwork |
| October 22, 2014 | Lanika Cervantes | Formal delineation fieldwork of new project segment. |
| December 18, 2014 | Julie Stout | Formal delineation of segment of O'Neal Canyon downstream of the proposed outfall structure. |

All acquired field data were obtained by recording the presence (including extents, types, and boundaries) of potential jurisdictional waters using a Trimble XH subfoot accuracy handheld Global Positioning System (GPS) unit. All acquired field data were submitted to AECOM San Diego's GIS specialists for post-field processing. Post-field analysis, using Trimble GPS Analyst (Version 2.1) GIS software to code, define, designate, and edit all acquired GPS field data representing potential jurisdictional waters (including wetlands) occurring within the survey area was conducted in tandem by an AECOM GIS specialist and the ecologist(s) who performed the fieldwork.

## B. Delineation of Federal Waters

Jurisdictional waters of the U.S. include those waters listed in 33 CFR 328.3 (Definitions of Waters of the United States). All waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR 328.4 (Limits of Jurisdiction). It was determined through pre-field surveys (remote analysis) and the general field reconnaissance that the survey area had the potential for

the presence of, at a minimum, two types of federally regulated waters (wetlands[20] and "other waters"[21]), warranting field assessments composed of the following:

1. Formal delineations for waters of the U.S. in the form of wetlands based on the three-parameter method.[22] The three-parameter method for identifying and delineating wetlands is outlined in and in accordance with the latest federal guidance, methodologies, and procedures:

    a. *Corps of Engineers Wetlands Delineation* (1987 Manual) (Environmental Laboratory 1987)

    b. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008 Supplement) (Environmental Laboratory 2008)[23]

    c. *Wetland Plants of Specialized Habitats in the Arid West* (Lichvar and Dixon 2007)

    d. All applicable USACE Special Public Notices (SPNs) and Regulatory Guidance Letters (RGLs) for wetlands

2. Formal delineations for waters of the U.S. in the form of other nonwetland waters based on field indicators to define and identify the jurisdictional lateral extent of the ordinary high water mark (OHWM), as defined by 33 CFR 238.3(e), federal guidance, methodologies, and procedures, including the following:

    a. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008)[24]

    b. *Review and Synopsis of Natural and Human Controls on Fluvial Channel Processes in the Arid West Channels* (Lichvar and Field 2007)

[20] The federal definition of wetlands outlined in 33 CFR 328.3(b), 40 CFR 230.3(t), 1987 Manual (Environmental Laboratory 1987), and 2008 Supplement (Environmental Laboratory 2008).

[21] The federal definition of Other Waters outlined in 33 CFR 328.3(a)(3)(i–iii) and 328.3(e).

[22] The three-parameter method requires the simultaneous presence (co-occurrence) of wetland hydrology, hydric soil, and hydrophytic vegetation for an area to be classified as a wetland (Environmental Laboratory 1987).

[23] The 1987 Manual and 2008 Regional Supplement are guidance documents for delineating waters in the form of wetlands only. The portion of the delineated survey area containing aquatic features used 2008 Supplement Data Forms to document the presence/absence of wetlands, but not the presence of *jurisdictional waters* possessing ordinary high water mark (OHWM) or "other waters" of the U.S.

[24] Datasheets from this field delineation manual were used as guidance documents for this delineation and are not included in this JDR. However, Data Forms from this guidance manual were consulted and used as guidance for this delineation.

c. *Distribution of Ordinary High Water Mark (OHWM) Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (Lichvar et al. 2006)

d. All applicable USACE SPNs and RGLs for other waters[25]

This jurisdictional delineation applied the two prescribed field methodologies in the routine delineating of waters of the U.S. (including wetlands), as described below.

Methodology One: Formal Delineations for Waters of the U.S. in the Form of Wetlands

The routine determination method requires an examination for the presence of wetland indicators for hydrophytic vegetation, hydric soils, and wetland hydrology. With the exception of some atypical situations, USACE guidelines for delineating wetlands (e.g., 1987 Manual and 2008 Supplement) require co-occurrence of positive wetland indicators for each parameter (e.g., hydrophytic vegetation, wetland hydrology, and hydric soil).

The formal jurisdictional delineation for federally defined wetlands was conducted in accordance with Part IV (Methods), Section D (Routine Determinations), Subsection 2 (Onsite Inspection Necessary) of the 1987 Manual's "Routine Determinations for Areas Greater Than Five Acres in Size." The 1987 Manual recommends that a baseline be established that parallels the major watercourse(s) through the survey area and that the maximum distance between transects (intervals) for linear delineations that are 1 to 2 miles in length does not exceed 0.66 mile.

A positive wetland determination was made for those observation points that exhibited positive wetland field indicators for each of the three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. A positive determination for potential nonwetland jurisdictional waters of the U.S. was made for areas that did not meet all three parameters for federally defined wetland but met the definitions of other waters of the U.S.[26] (see Methodology Two, discussed below).

Although the 2008 Supplement also uses the three-parameter method outlined in the 1987 Manual, it identifies specific sections of the 1987 Manual that are replaced by 2008 Supplement guidance (see Table 1 of the 2008 Supplement) that must be used within applicable land resource regions as outlined in the 2008 Supplement (the survey area is within Region C [Mediterranean

[25] RGL 88-06; RGL 05-05.
[26] 33 CFR 328.3(a–f) (51 FR 41250, November 13, 1986, as amended at 58 FR 45036, August 25, 1993).

California]). Therefore, the 2008 Supplement takes precedence over the 1987 Manual for applications in the Arid West region, and states the following in Chapter 4:

> The Arid West is characterized by extended dry seasons in most years and by extreme temporal and spatial variability in rainfall, even in "normal" years. Many wetlands in the region are dry for much of the year and, at those times, may lack hydrology indicators entirely. Therefore, *lack of an indicator is not evidence for the absence of wetland hydrology*. [Italics in the original.]

In Chapter 5:

> In general, *wetland determinations on difficult or problematic sites must be based on the best information available to the field inspector, interpreted in light of his or her personal experience, and knowledge of the ecology of wetlands in the region*. [Italics in the original.]

In accordance with the 1987 Manual and the 2008 Regional Supplement, wetland delineation criteria, primary field indicators, and best professional judgment were used for the collection of data pertinent to assessment of the mandatory technical criteria. Field data were recorded in the 2008 Supplement Wetland Determination Data Forms – Arid West Region (Version 2.0), which is appropriate for application of both the 1987 Manual and the 2008 Supplement "routine" method. Copies of the Arid West region Data Forms are included in Attachment B.[27]

Where feasible, the baseline for establishing the transect (and field data point) location(s) was situated in nonjurisdictional (i.e., upland and/or nonwetland and/or nonriparian) habitat so that the initial observation points of the transect were likely outside of wetland boundaries or on either side of the potential jurisdictional waters (in the form of wetland), and extended across the jurisdictional feature to nonjurisdictional (upland) habitat on the opposite side. This baseline placement ensured that the outer observation point for each transect was also located in representative nonwetland (or upland) habitat, allowing for accurate demarcation of the limits of potential jurisdictional areas. Additionally, a field data point was used to confirm the presence or absence of a federally defined wetland within a feature that presented the potential to support the simultaneous presence of all three wetland parameters (as defined in the 1987 Manual and 2008 Supplement) occurring at such a confirmation point.

[27] One Data Form was used for this delineation to confirm the absence of federally defined wetlands as outlined in 33 CFR 328.3(b), 40 CFR 230.3(t), the 1987 Manual, and the 2008 Supplement.

For this formal jurisdictional delineation concerning nonvernal pool wetland, it was determined that two transects comprising a cumulative total of four field data points and one upland confirmation point would be adequate for accurate and precise wetland field delineation data collection.[28] Obvious upland areas (with exception to upland confirmation points) were not mapped as part of this analysis, as they did not represent potential waters, wetland, and/or riparian communities that warranted a formal jurisdictional delineation. Additional soil pits were dug in proximity to confirmation points to accurately confirm the field findings (see results, below).

For this formal jurisdictional delineation concerning vernal pool wetland, existing site data, compiled from previous (and current) floristic surveys (of the survey area), by AECOM botanists, are incorporated in this JDR. Table 2 lists the floristic surveys known to have included the survey area that has, and is contributing to, the existing vernal pool data record for the survey area. The most recent site surveys of vernal pools, which also included a 500-foot buffer of the survey area, were conducted by AECOM in March, April, and May 2013. During these surveys, one potential pool was mapped within the survey area (AECOM 2013).

**Table 2**
**Previous Floristic Field Surveys Completed within the Survey Area**

| Entity | Dates | Type of Survey |
|---|---|---|
| AECOM | April 19, 2013 | Vegetation Mapping Survey |
| AECOM | May 16, 2013 | Vegetation Mapping Survey |
| AECOM | May 27, 2013 | Vegetation Mapping Survey |
| AECOM | March 5, 2013 | Rare Plant Survey |
| AECOM | March 12, 2013 | Rare Plant Survey |
| AECOM | April 5, 2013 | Rare Plant Survey |
| AECOM | April 12, 2013 | Rare Plant Survey |
| AECOM | April 19, 2013 | Rare Plant Survey |
| AECOM | May 10, 2013 | Rare Plant Survey |
| AECOM | May 16, 2013 | Rare Plant Survey |
| AECOM | May 17, 2013 | Rare Plant Survey |
| AECOM | May 27, 2013 | Rare Plant Survey |

Based on guidance from the Los Angeles District of USACE, basins, depressional features, and road ruts are only considered vernal pools if these features support federally defined wetland and this wetland within the basin is primarily composed of (or dominated by) vernal pool indicator species that are outlined in the USACE November 25, 1997, Special Public Notice (USACE 1997 [Attachment C]). For all delineations within the Los Angeles District of the USACE, vernal

[28] The survey area does not parallel a major watercourse. However, for accuracy and precision in ascertaining jurisdictional extent of federally defined wetland, the start and end of the single transect were located within confirmed upland habitat and encompassed all known aquatic features occurring within the survey area.

pool basins must also occur (entirely or partially) within the survey area boundary (AECOM 2012).

Based upon guidance from the Los Angeles District of USACE, subsurface investigations for hydric soil (e.g., soil pits) were not conducted as part of the formal delineation within the survey area for any vernal pool basin to avoid potentially impacting these aquatic features (AECOM 2012). Therefore, it should be noted that all delineated vernal pools are not based on formal field delineations (as described above and below), but on floristic surveys and demarcating areas of temporary surface inundation from rainfall events. Figure 4 shows vernal pool wetland, road ruts (that may support fairy shrimp), and depressional features occurring within the survey area.

*Hydrophytic Vegetation*

Vegetation mapping surveys were conducted outside and in tandem during the field delineation efforts and were refined to include results of wetland field delineation. The minimum mapping unit used for this delineation was 0.01 acre for hydrophytic vegetation communities.

Only those plant species that form hydrophytic plant communities within the survey area that are listed within the USACE 2013 National Wetland Plant List (NWPL)[29] (Lichvar 2013) or have the potential for being considered as hydrophytic are addressed herein. This JDR uses the Holland Code Classification System (Holland 1986) as modified by Oberbauer (Oberbauer et al. 2008), and the Draft Vegetation Communities of San Diego County cross-referenced with *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 2008) to describe riparian and wetland (e.g., hydrophytic) vegetation communities occurring with the survey area.[30] Where vegetation contains a mixture of component and indicator species from two or more communities outlined in Holland (1986) and Sawyer and Keeler-Wolf (2008), the indicator species that appears with the greatest vegetation coverage (absolute dominance based on percent cover) was used to identify the vegetation community (County of San Diego 2010).

An area was determined to support hydrophytic vegetation if more than 50% of the dominant species was listed as Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC) species on the USACE 2013 NWPL (Lichvar 2013).[31] Vegetation was assessed using the "50/20 Rule" to determine dominant species.[32] By definition, dominant species are the most

[29] FR V. 77 No. 90, May 9, 2012.
[30] Only those plant species that are listed within the NWPL (Lichvar 2013) or have the potential for being adapting (and persisting) to wetland habitats are considered as hydrophytic plant species (e.g., wetland plants).
[31] The 2008 Supplement does not use ± facultative values.
[32] The 50/20 Rule is a dominance ratio. When using the 50/20 Rule, greater than 50% of the plants must be

abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceed 50% of the total dominance measure (e.g., basal area or areal coverage) for the stratum, plus any additional species that individually compose 20% or more of the total dominance measure for the stratum (Tiner 1999). All observation points were also surveyed for the presence of surface wetland hydrological field indicators such as inundation, saturation, water marks, drift lines, drainage patterns, and sediment deposits occurring within a hydrophytic vegetation community.

*Hydric Soil*

AECOM consulted and field verified (at the survey area) the *Soil Survey of San Diego County, California* (Bowman 1973) and the USDA NRCS Soil Survey Geographic Database (SSURGO) and State Soil Geographic Database (STATSGO) digital soil survey metadata provided by the California Soil Resource Lab (U.C. Davis 2012b) within the survey area. Guidance for using soil surveys in the Arid West region is found in the 2008 Arid West Region (Version 2.0) Supplement: Chapter 3 (Hydric Soil Indicators), page 34, "Use of existing soil data; soil surveys, which emphasizes groundtruthing to document the soil survey and field conditions."[33]

All soil pits (field data points for soil inspection and observation) were dug to a depth of 20 inches below natural grade or to the point of obstruction (e.g., compaction or rock barriers) if a 20-inch-deep soil pit was not possible. Soil pits were consciously located in obvious (or potential) wetland and nonwetland areas to determine the wetland/ nonwetland boundary and the presence or absence of hydric soil. In most instances, additional soil pits were dug between observation points to accurately determine the potential wetland/nonwetland boundary. Subsurface soil taken from soil pits was analyzed visually for redoximorphic features using *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric*

facultative, facultative wet, or obligate wet species. In addition, the cumulative total of all dominant plants must be equal to or greater than 50% of the areal coverage of the plot, and any plant species that equals or exceeds 20% of the total percentage areal coverage of the plot is also considered a dominant plant. If no plant species equals or exceeds 20% of the cumulative total areal coverage of the plot, then the dominant plants are the plants that, when ranked in decreasing order of abundance and summed, immediately exceed 50% of the plot's areal coverage when added together (Federal Interagency Committee for Wetland Delineation 1989).

[33] The U.S. Department of Agriculture Soil Survey of the San Diego Area, California (Bowman 1973), may not reflect current field conditions. It is possible that some soils investigated for that study have been transformed through human intervention since the 1973 soil survey was published. Soils that underlie the survey area may have been transformed significantly or extensively as a result of human activity (e.g., transportation development encroachment and sedimentation). Therefore, the formal delineation fieldwork included examining soils in the survey area. When comparing these findings to the 1973 Soil Survey for San Diego County, field findings took precedent over the 1973 survey findings.

*Soils, Version 7.0* (USDA 2010b). A Munsell Color System was consulted to document and record soil color (hue and chroma) at the time of the subsurface investigations.

Only those soil(s) and soil land type(s)[34] within the survey area that are listed by the NRCS as hydric (NRCS 2013a) have diagnostic hydric properties and/or features, have hydric inclusions, meet the criteria and/or definition of a hydric soil, or have the potential to be hydric by definition are addressed herein.

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (NRCS 2013e).[35] The NTCHS definition identifies general soil properties that are associated with wetness. Additionally, specific criteria that identify those estimated soil properties unique to hydric soils have been established by the NTCHS (NTCHS 1995).[36] Therefore, hydric soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

Hydric soil definitions and NTCHS-approved hydric soil criteria are used to generate hydric soil lists (Environmental Laboratory 2008). The National List of Hydric Soils (NRCS 2013f), primarily used as an off-site assessment tool during pre-survey investigations, contains a listing of soils that have a probability of being hydric. Hydric soil indicators are primarily morphological indicators used for field identification of hydric soils and/or soils meeting the hydric soil definition. These hydric soil indicators are a subset of the NTCHS *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 7.0* (USDA 2010b). Hydric soil indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition and/or criteria of hydric can be considered hydric whether or not it exhibits diagnostic field indicators (e.g., the presence of mottles or gleying [redoximorphic features]) at the point of subsurface investigation. If hydric soil indicators are absent and indicators of understory and/or herbaceous hydrophytic vegetation and wetland hydrology are simultaneously present within an appropriate

[34] In most areas surveyed, there are places where the soil material is transported depositional material, or so altered, rocky, shallow, dynamic, or severely eroded that it cannot be classified by soil series. While still technically considered a soil, these soil materials are called soil land types (not soil series), and are given descriptive names outside of the system of soil taxonomy. For example, a soil land type recognizes and names the soil and landscape properties that are not used as criteria in soil taxonomy (e.g., escarpments, inundation, deposition, gullying, and erosion). Therefore, a soil land type is a functional unit that may be designed and designated according to the purpose of the existing soil survey (Pedosphere 2012).

[35] Also published in FR 59 35680–35681, July 13, 1994.

[36] Also published in FR 60 10349, February 24, 1995.

landscape setting, then, by definition, the presence of a problematic soil would be justified as meeting the criteria to be considered a hydric soil (Environmental Laboratory 2008).[37]

Where warranted, a field diagnostic test for determining the presence or absence of iron reduction and identifying aquic conditions using α, α' Dipyridyl was also applied in selected soil examination areas. The soil test pits were also evaluated for the presence of subsurface wetland hydrology indicators such as soil saturation, oxidized root channels, and other hydric soil indicators such as fluvial depositional material.

The 2008 Supplement has a specific technical description (and User Notes) for hydric soil indicators for vernal pools (*Indicator F9: Vernal Pools*) in Chapter 3 (Hydric Soil Indicators) on page 34, which states:

> In closed depressions that are subject to ponding, presence of a depleted matrix with 60 percent or more chroma of 2 or less in a layer 2 in. (5 cm) thick entirely within the upper 6 in. (15 cm) of the soil. Most often soils pond water for two reasons: they occur in landscape positions that collect water and they have a restrictive layer that prevents water from moving downward through the soil. Normally this indicator occurs at the soil surface. Redox concentrations including iron/manganese soft masses or pore linings, or both, are required in soils that have matrix values/chromas of 4/1, 4/2, and 5/2. If the soil is saturated at the time of sampling, it may be necessary to let it dry to a moist condition for redox features to become visible.

However, based on guidance from the Los Angeles District of USACE, subsurface investigations for hydric soil (e.g., soil pits) were not conducted as part of the formal delineation within the survey area for any potential vernal pool basins (or vegetated feature that could be construed as vernal pools [e.g., small depressional areas, road ruts, isolated freshwater seep, and/or microwatersheds]).[38] Subsurface investigations for determining the presence (or absence) of hydric soil were avoided to remove the possibility of potentially impacting these features (and

[37] Specific guidance germane to riparian areas (in the Arid West), which generally exhibit a hydrophytic overstory and lack a hydrophytic understory in places throughout their extent, is found in the 2008 Supplement: Chapter 5, page 85, "Problematic hydrophytic vegetation; Description of the problem," pages 90–91, paragraph c, which emphasizes the presence of a hydrophytic understory (or a hydrophytic herbaceous layer). If the soils are lacking hydric soil indicators (such as entisols) and/or wetland hydrology is problematic, more emphasis should be placed on the understory, which may be more indicative of current wetland or nonwetland conditions.

[38] Subsurface investigations to examine soil during a formal delineation would require digging a soil pit. Digging a soil pit within a vernal pool is considered an impact (by potentially piercing the aquatard and permanently altering the hydrology of a vernal pool feature under such an investigation).

permanently breaching a potential impermeable layer) that are currently considered vernal pools and/or features that would potentially be determined as vernal pools by USACE and/or the District at a later time (AECOM 2012).

Therefore, some, but not all, of the specific technical description for hydric soil indicators for vernal pools can be applied to soil not examined during the formal field delineation. However, since subsurface hydric soil indicators could not be observed within any mapped or newly mapped vernal pool basins, small depressional areas, road ruts, freshwater seep, or microwatersheds, the soil underlying these features was also considered to potentially lack hydric soil features. Guidance for soil lacking hydric indicators is found in the 2008 Supplement, Chapter 3, page 27, which states:

> Indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators.

Not conducting subsurface investigations for soil during this delineation can result in conclusions of an atypical delineation. Therefore, the soils underlying the features occurring within the project area would be considered "Problem Soils" and a "Difficult Situation." The 2008 Supplement provides guidance for "Difficult Situations in the Arid West" concerning "Hydric soil indicators for problem soils" (Chapter 5, page 54), which states:

> [Hydric] indicators are not currently recognized for general application by the NTCHS, or they are not recognized in the specified geographic area. However, these indicators may be used in problem wetland situations in the Arid West where there is evidence of wetland hydrology and hydrophytic vegetation, and the soil is believed to meet the definition of a hydric soil despite the lack of other indicators of a hydric soil. To use these indicators, follow the procedure described in the section on Problematic Hydric Soils in Chapter 5 (of the 2008 Supplement). If any of the following indicators is observed, it is recommended that the NTCHS be notified by following the protocol described in the "Comment on the Indicators" section of *Field Indicators of Hydric Soils in the United States* (USDA 2006).

Therefore, if a feature simultaneously supports wetland hydrology *and* hydrophytic vegetation,[39] the soil can be considered hydric by definition (without a subsurface investigation) at the point of investigation.

*Wetland Hydrology*

Wetland hydrology is essentially a result of watershed-driven processes of hydrological inputs from precipitation that provide sufficient groundwater and/or surface flows to support hydrophytic plants. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The formation, persistence, size, and function of wetlands are controlled by hydrologic processes within the watershed. Water sources from continual inputs (e.g., immediate proximity to a hydrological feature such as a lake, a river [including small intermittent stream features], the ocean, and/or a wet climate) and the ability to retain or slow down water flow are necessary for the creation and existence of wetlands. Distribution and differences in wetland type, vegetative composition, and soil type are caused primarily by geology, topography, and climate. Hydrologic processes occurring in wetlands are the same processes that occur in uplands, and are collectively referred to as the hydrologic cycle. Major components of the hydrologic cycle are precipitation, surface-water retention, surface-water flow, groundwater flow, and evapotranspiration. Wetlands and uplands continually receive or lose water through exchange with the atmosphere, streams, and groundwater. Wetland hydrology is a result of a favorable topographic and geologic setting and an adequate or persistent supply of water (USGS 1996).

USACE has set a quantitative wetland hydrology threshold as it applies to all types of nontidal wetlands (Environmental Laboratory 1987).[40] Specifically, an area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence).[41,42] Additionally, the hydrology requirements for a wetland can be defined as follows: On average, an area must be inundated or the soils saturated

[39] For wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover at the peak of the growing season (Environmental Laboratory 2008).

[40] Criteria, limits, and thresholds for wetland hydrology are defined for nontidal wetlands in the 1987 Manual.

[41] The growing season in Southern California is estimated to be 365 days a year; therefore, an area has wetland hydrology if it is inundated or saturated to the surface continuously for 18 days.

[42] The 2008 Supplement provides no quantitative information for the start of a "growing season." The 1987 Manual defines "growing season" as the portion of the year when soil temperature (measured 20 inches below the surface) is above biological zero (5°C or 41°F). This period "can be approximated by the number of frost-free days." Estimated starting and ending dates for the growing season are based on 28°F air temperature thresholds at a frequency of 5 years in 10. The end of the growing season is based on the 28°F (-2.2°C) air temperature threshold, as reported in Climate Analysis for Wetlands (WETS) tables (NOAA 2012b; NRCS 2013).

to the surface in more than half the years (1 out of 2, 5 out of 10, or 50 out of 100) for more than 5% of the growing season to conclude with reasonable certainty that the area has wetland hydrology. The survey area is located in Region 0, where the growing season is year-round. By using this protocol, the hydrology of nontidal jurisdictional wetlands can often be empirically identified using a minimum of 10 years of climactic data (to represent normal circumstances).[43]

In the 2008 Supplement (Environmental Laboratory 2008), USACE sets a quantitative hydrology threshold that it applies in both tidal and nontidal wetlands on highly disturbed or problematic sites. Specifically, USACE (2005) provides a technical standard for monitoring hydrology on such sites. This standard requires 14 or more consecutive days of flooding or ponding, or a water table 12 inches or less below the soil surface during the growing season[44] at a minimum frequency of 5 years in 10 (50% or higher probability) (NRC 1995).[45] Wetland hydrology for the survey area was also determined following guidance outlined in Chapter 5 (Difficult Wetland Situations in the Arid West: Wetlands that Periodically Lack Indicators of Wetland Hydrology, pages 102–103, Procedures 1a-b, 1-e, 1-h) of the 2008 Supplement (Environmental Laboratory 2008).

Specific wetland hydrology field indicators, as outlined by federal guidance documents (e.g., the 1987 Manual and 2008 Supplement), occurring within the survey area were surveyed for wetland hydrology factors such as stratigraphy (and groundwater levels), topography, soil permeability, and plant cover, in concert with available climactic data. All wetland hydrology indicators (both primary and secondary [per the 2008 Supplement]) were recorded when observed where there was adequate potential for surface water inundation, saturation, and retention occurring in exposed soil (e.g., unlined channels and/or swales or low topographic areas) per the guidance outlined within the 1987 Manual and 2008 Supplement. Areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changed due to natural events or human activities (NRC 1995).

Additional components of wetland hydrology were identified based on channel configuration (including graded or managed softbottom channels; streamflow behavior; additional hydrologic inputs via tributaries and culverts; local deposition; the type, abundance, and relative age of

[43] This delineation applies the concept of "normal circumstances" of persisting wetland parameters being present within the survey area presently (and to a greater extent in the past) as outlined and defined in RGL 86-09 and Part IV, Section F of the 1987 Manual.

[44] The growing season in Southern California is estimated to be 365 days a year.

[45] The 2008 Supplement provides no quantitative information for the start of a "growing season." The end of the growing season is still based on the 28°F (-2.2°C) air temperature threshold as reported in WETS tables.

vegetation; and other subtle geomorphic indicators of regular flow levels [e.g., drift deposits and water marks]).

Methodology Two: Formal Delineations for Potential Jurisdictional Waters of the U.S. in the Form of Other Waters

Other waters of the U.S. are defined in 33 CFR 328.3. The survey area has the potential to support one type of other water, in the form of a nonvegetated drainage, which presented an OHWM (as defined in 33 CFR 328.3[e]). OHWM indicators were used to delineate the lateral jurisdictional extent of potential nonwetland waters of the U.S. The presence or nonpresence for lateral jurisdictional limits were established for all potential riverine, drainage features, and channels occurring within the survey area in conjunction with field verification for a determination of the OHWM (as applicable), which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of any potential riverine, drainage features, and channels were identified on the basis of one (or more) of the following:

- Water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks.
- Scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil.
- The presence of developed longitudinal bars within channel margins.
- Type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation, and the presence and absence of litter and debris within the ephemeral channels.
- Ephemeral channel configuration, estimated streamflow behavior, and other subtle geomorphic evidence indicative of regular flow levels.
- Consideration of precipitation patterns and lack of consistent flow.
- Geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, gravel sheets, desert pavement, and dunes).
- Pattern and location of relictual channels and discontinuous drainage features.

The lateral limits of jurisdiction specified by a technically defensible method such as the portion of the drainage features/channels supporting an OHWM would indicate a sufficiency to carry the

mean annual flow, as determined through the extrapolation of field indicators and, to a lesser extent, rainfall data. Lateral jurisdictional limits are established for features in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits (and other potential waters of the U.S. existing within this limit).

The limits of waters of the U.S. in nontidal waters is defined in 33 CFR Part 328.4 (c) (1–3) as follows:

1. In the absence of adjacent wetlands, the jurisdiction extends to the OHWM; or
2. When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands; or
3. When the water of the U.S. consists only of wetlands, the jurisdiction extends to the limit of the wetland.

The criteria for frequency and duration of the OHWM have not been defined under the CWA or under any guidance from USACE for field delineators; therefore, identifiable field indicators and characteristics of OHWM, best professional judgment, interpretation of 33 CFR 328.3(e), and appropriate RGLs were applied to determine the potential jurisdictional extent of OHWM within the survey area. Fluvial channels occurring within the Arid West region of the U.S. have recently been described as "ordinary" when they typically correspond to a 5- to 8-year event, and typically have an active floodplain with sparse vegetation cover, shifts in soil texture, and occasional alignment with distinctive bed and bank features (Lichvar and Field 2007). However, modeling has shown that slightly larger events (5- to 10-year recurrence) may be necessary to engage the active floodplain in arid systems (Lichvar et al. 2006).

OHWM and the limits of jurisdiction are discussed in the preamble to the USACE November 13, 1986, Final Rule, Regulatory Programs of the Corps of Engineers, Federal Register Volume 51, No. 219, page 41217, which discusses the proper interpretation of 33 CFR Part 328.4 (c)(1) as follows:

> Section 328.4: *Limits of Jurisdiction.* Section 328.4 (c)(1) defines the lateral limit of jurisdiction in nontidal waters as the OHWM provided that the jurisdiction is not extended by the presence of wetlands. Therefore, it should be concluded that in the absence of wetlands, the upstream limit of [USACE] jurisdiction also stops when the OHWM is no longer perceptible.

In addition, RGL 88-06, issued June 27, 1988, discussed the OHWM as follows:

> The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel high flows, not the average annual flood elevation that generally extends beyond the channel.[46]

RGL 05-05, issued December 7, 2005, discusses the field practice and practicability of identifying, determining, and applying the OHWM for nontidal waters under Section 404 of the CWA (and under Sections 9 and 10 of the Rivers and Harbors Act of 1899), and states the following:

> Where the physical characteristics are inconclusive, misleading, unreliable, or otherwise not evident, districts may determine OHWM by using other appropriate means that consider the characteristics of the surrounding areas, provided those other means are reliable.[47] Such other reliable methods that may be indicative of the OHWM include, but are not limited to, lake and stream gage data, elevation data, spillway height, flood predictions, historic records of water flow, and statistical evidence.

Many stream channels in arid regions are dry for much of the year and, at times, may lack hydrology indicators entirely or exhibit relic OHWM features from exceptional hydrological events. RGL 05-05 further states the following:

> When making OHWM determinations, districts should be careful to look at characteristics associated with ordinary high water events, which occur on a regular or frequent basis. Evidence resulting from extraordinary events, including major flooding and storm surges, is not indicative of OHWM. For instance, a litter or wrack line resulting from a 200-year flood event would, in most cases, not be considered evidence of an OHWM.

[46] Following RGL 05-06 (Expired RGLs): Unless superseded by specific provisions of subsequently issued regulations or RGLs, the guidance provided in RGLs generally remains valid after the expiration date, as discussed in the FR notice on RGLs of March 22, 1999, FR Vol. 64, No. 54, page 13783.

[47] In some cases, the physical characteristics may be misleading and would not be reliable for determining the OHWM. For example, water levels or flows may be manipulated by human intervention for power generation or water supply. For such cases, districts should consider using other appropriate means to determine the OHWM (RGL 05-05).

It should be noted that swales are generally poorly defined surface aquatic features characterized by low-volume, infrequent, or short-duration flow, and are usually shallow topographical features in the landscape that *may* convey water across upland areas during and following uncommon large storm events. Swales are generally not considered jurisdictional waters of the U.S. because, among other things, they lack an identifiable OHWM, are not tributaries to any receiving water, and do not support interstate commerce.[48]

## C. Delineation and Survey for Waters of the State

In addition to pre-field and reconnaissance surveys, potential jurisdictional waters of the state were assessed and delineated within the survey area. There are potentially two separate state agencies that may have jurisdiction over aquatic features occurring within the survey area (e.g., CDFW, and RWQCB). Each state resource agency has its own definition of jurisdictional waters and administers its respective regulations over these aquatic features. Therefore, three separate delineation methodologies for state-regulated waters are required, as defined and described below.

CDFW

Jurisdictional waters of the state include those waters listed in CFGC Section 1600 *et seq*. Section 1601(a) is based on Title 14 CCR 720[49], which designates waters of the state regulated by CDFW to be as follows:

> "all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds which may have intermittent flows of water."[50]

In practice, CDFW usually extends its jurisdictional limit to the top of a stream, the bank of a lake, or the outer edge of the riparian vegetation, whichever is wider. Riparian habitats do not always have identifiable hydric soils or clear evidence of wetland hydrology as defined by USACE. Therefore, CDFW wetland boundaries often extend beyond USACE wetland boundaries, which sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Jurisdictional boundaries under CFGC Section 1600 *et seq*. (CDFW's Lake and

[48] 33 CFR 328.3. Even when not considered a jurisdictional water of the U.S., swales may still contribute to a surface hydrologic connection between upland and aquatic features. However, such hydrological connections are dependent on large, uncommon storm events.
[49] E.g., Designation of Waters of Department Interest.
[50] The California Code of Regulations (14 CCR 1.72) defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

Streambed Alteration Program) may encompass an area that is greater than that under the jurisdiction of USACE. Lateral jurisdictional extent for waters of the state were mapped either to the head of the established (nonvegetated) channel bank, and/or the edge of the mulefat riparian canopy (whichever was wider), as applicable, along the channel occurring within the survey area.

In conjunction with adopting a wetlands policy on March 9, 1987, the California Fish and Game Commission assigned CDFW the task of recommending a wetlands definition. CDFW determined that the USFWS wetland definition and classification system, which is based on the *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979) was the most biologically valid. Therefore, CDFW only requires the presence of one parameter (e.g., wetland hydrology, hydric soils, or hydrophytic vegetation) for an area to qualify as a jurisdictional water of the state in the form of a wetland. The Cowardin method (Cowardin et al. 1979) requires care to avoid falsely positive conclusions (e.g., concluding that an area with no transitional relation to the aquatic system is a wetland based on presence of vegetation equally apt to be found in wetland or nonwetland circumstances).

Based on the CFGC Section 1600 *et seq*. definition, relevant state regulations (see above [Section IIIB of this JDR), CDFW regulatory practice, and past CDFW field guidance, swale features (individual and complexes), if they occurred within the survey area, were also noted and recorded as potential jurisdictional waters of the state.[51]

Therefore, jurisdictional delineations for waters of the state (in the form of associated riparian wetland) occurring within the survey area were conducted based on the one-parameter[52] method outlined in CDFW/USFWS guidance documents and classification manual(s) to define presence and state jurisdictional extent (which, in the case of the survey area, is represented by the lateral riparian extent and unvegetated bank of a riverine feature).[53,54]

[51] Swales are microtopographic features that convey surface water in low volume and short duration (hours to days [usually in sheetflow]) and are commonly associated with riverine features (Hauer and Lamberti 2007).

[52] For federal jurisdictional waters, a determination for the presence of wetland is based on the presence of three parameters occurring simultaneously at the area of investigation and study: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology (Environmental Laboratory 1987). Therefore, for state-defined wetlands, only one of these three wetland criteria is required to be present for the state to consider an aquatic feature a wetland.

[53] It should be noted that CDFW does not currently have a delineation manual for jurisdictional waters of the state (including wetlands). However, there is a CDFW guidance document for the xeric riparian systems in the dryland regions of California (CDFG 2010), which was consulted for this jurisdictional delineation and JDR.

[54] Although aquatic features can be delineated and defined as an aquatic feature under the Cowardin classification system, they are not necessarily *jurisdictional* waters of the U.S. or state.

RWQCB

For jurisdictional water features occurring within the survey area, RWQCB jurisdiction was mapped identically as noted above for CDFW and USACE jurisdiction. Therefore, all delineated aquatic features occurring within the survey area are under RWQCB jurisdiction. RWQCB jurisdiction was delineated based on the presence of aquatic features that simultaneously meet the definition for waters of the state (CWC Section 13050[e]) *and* present "beneficial use" as outlined in the *Water Quality Control Plan for the San Diego Basin* (RWQCB 1994 [as amended]). Therefore, if it was determined that any type of aquatic and/or aquatic-related features occurring within the survey area would present "beneficial use," the aquatic feature would be delineated (this would include swale features).

## VI. RESULTS

The findings for both federal and state waters (including each potential wetland parameter[s]) were recorded within the survey area (Table 3). Specific findings for hydrophytic vegetation, hydric soils, and wetland hydrology are discussed in detail below.

**Table 3**
**Survey Results for Parameters of Potential Jurisdictional Waters of the U.S.[a] and State[b] in the Form of Wetland Occurring within the Survey Area**

| Field Data Point | Vegetation Community/Cover Type | Hydrophytic Vegetation | Hydric Soils | Wetland Hydrology | Potential Federal Water | Potential State Water[c] |
|---|---|---|---|---|---|---|
| T2.1 | Disturbed Habitat | - | - | + | No | No |
| T2.2 | Southern Willow Scrub | + | + | + | Yes | Yes |
| T4.1 | Nonnative Grassland | - | - | - | No | No |
| T5.1 | Tamarisk Scrub | -[b] | - | - | No | Yes |

[a] The federal definition of wetlands outlined in 33 CFR 328.3(b), 40 CFR 230.3(t), the 1987 Manual, and the 2008 Supplement.
[b] While not meeting the hydrophytic vegetation criteria as a wetland water of the U.S., the Tamarisk Scrub community is a riparian community under CDFW.
[c] As defined by CWC Section 13000 *et seq*., CFGC Section 1600 *et seq*. and Title 14 CCR 1.72; CCR 1500 *et seq*.; and Public Resources Code 21000 *et seq*.

### A. Riparian and Wetland Plant Communities

One hydrophytic vegetation community, as defined by the U.S. Army Corps of Engineers, occurs within the survey area. This vegetation community was recorded and mapped during the field delineation and vegetation surveys (see above) (Figure 4). This hydrophytic vegetation community and its acreage occurring within the survey area are summarized in Table 4.

Hydrophytic plant species associated with this vegetation community occurring within the survey area is listed in Table 5.[55] The wetland and riparian floristic associations (hydrophytic vegetation communities) are discussed below and correspond to the following:

1. Southern Willow Scrub (Holland Code 63320 [Oberbauer et al. 2008]) or *Salix Laevigata* Woodland Alliance (Red Willow Thickets) (Sawyer and Keeler-Wolf 2008) (Figure 4)

**Table 4**
**Hydrophytic Vegetation Communities Occurring within the Survey Area[a]**

| Vegetation Community (Holland 1986; Oberbauer et al. 2008) | Vegetation Community (Sawyer and Keeler-Wolf 2008) | Acreage within the Survey Area (acre)[b] |
|---|---|---|
| Southern Willow Scrub | *Salix Laevigata* Woodland Alliance (Red Willow Thickets) | 0.035 [AM1] |
| **Total** | | **0.035** |

[a] In acres. Acreage of the vegetation communities occurring within the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

[b] Table 4 is based upon the results of the formal delineation efforts which resulted in one type of vegetated wetland (e.g., southern willow scrub). The vegetation mapping efforts for the Biological Technical Report resulted in this vegetation community and four additional types of hydrophytic vegetation communities (e.g., alkali seep, freshwater seep, southern arroyo willow riparian forest, and tamarisk scrub) (AECOM 2013). It should be noted that the methodology for mapping vegetation communities differs from the strict delineation protocols for determining federally defined wetland. The presence and/or area of potential jurisdictional waters in the form of wetland (e.g., hydrophytic vegetation/hydric soils/wetland hydrology) differs from the mapped vegetation community based upon differing criteria in vegetation mapping and formal field delineations. Determining federally defined wetland through vegetation mapping is not a substitution for any formal field delineation. Vegetation mapping is primarily conducted by aerial mapping, field reconnaissance, and general groundtruthing of the aerial mapping. Formal delineations are conducted at specific points and catalogue all plant species occurring at those points to determine if a vegetation community meets the federally defined hydrophytic vegetation parameter (in addition to the other two federally defined wetland parameters [e.g., hydric soil and wetland hydrology] occurring at that same point of investigation). If the area undergoing a formal delineation supports the concurrence of all three federally defined wetland parameters, then the area is mapped to the specific vegetated wetland extent (where the three concurring wetland parameters end). Therefore, acreages in vegetation communities within the survey area that are considered as hydrophytic and/or riparian may differ between a mapped vegetation community and a formally delineated wetland. A mapped vegetation community may contain a mixture of a dominant hydrophyte and several upland species. However, a delineated wetland must present a dominance of greater than 50% hydrophytes and also support the other two wetland parameters at the same time within the same area. A mapped riparian or hydrophytic vegetation community does not always (or extensively) support the concurrence of one or two of the other wetland parameters (e.g., hydric soil and/or wetland hydrology). Therefore, a mapped vegetation community that is considered riparian or hydrophytic can or may be much larger in area than a formally delineated wetland presenting the same vegetative cover type; but this similar type of riparian and/or hydrophytic vegetation community is not considered as a federally defined wetland (or potentially jurisdictional water) because it lacks the presence of one or both of the other necessary wetland parameters within portions or all of the mapped vegetation community polygon/area(s). Additionally, some hydrophytic vegetation communities can be mapped individually while the formal delineation will encompass more than one vegetation community into a single wetland community based upon a hydrophytic vegetation community containing a mixture of component and indicator species from two or more communities outlined in Holland (1986) and Sawyer and Keeler-Wolf (2008), the indicator species that appears with the greatest vegetation coverage (absolute dominance based on percent cover) was used to identify the vegetation community (County of San Diego 2010).

[55] Not all hydrophytic plant species observed were recorded in the Wetland Determination Data Form –Arid West Region (Version 2.0) during the field delineation.

**Table 5**
**Hydrophytic Plant Species Observed within the Survey Area**

| Scientific Name | Common Name | Arid West Indicator Status[a] |
|---|---|---|
| **Tree Species Growth Habit** | | |
| *Salix laevigata* | red willow | Facultative Wetland (FACW) |
| *Salix lasiolepis* | arroyo willow | FACW |
| **Shrub Species Growth Habit** | | |
| *Baccharis salicifolia* | mulefat | Facultative (FAC) |
| *Isocoma menziesii* | goldenbush | FAC |
| *Nicotiana glauca* | tree tobacco | FAC |
| *Salix exigua* | sandbar willow | FACW |
| *Tamarix ramosissima*[b] | saltcedar | FAC |
| **Herbaceous Species Growth Habit** | | |
| *Eleocharis macrostachya*[c] | pale spike rush | Obligate (OBL) |
| *Festuca perennis* | Italian rye grass | FAC |
| *Juncus bufonius* | toad rush | FACW |
| *Juncus mexicanus* | Mexican rush | FACW |
| *Lythrum hyssopifolium* | purple loosestrife | OBL |
| *Mesembryanthemum nodiflorum* | slender-leaved iceplant | FAC |
| *Mimulus guttatus* | seep monkey flower | OBL |
| *Polypogon monspeliensis* | rabbitsfoot grass | FACW |
| *Psilocarphus brevissimus* | woolly marbles | OBL |
| *Rumex crispus* | curly dock | FAC |
| *Sisyrinchium bellum* | western blue-eyed-grass | FACW |
| *Spergularia bocconi* | sand-spurry | FACW |
| *Typha domingensis* | southern cattail | OBL |

[a] Based on the 2013 NWPL (Lichvar 2013). OBL wetland species occur almost always (estimated probability >99%) under natural conditions in wetlands; FACW species usually occur in wetlands (estimated probability 67 to 99%) but occasionally are found in nonwetlands; FAC species are equally likely to occur in wetlands or nonwetlands (estimated probability 34 to 66%). If a species does not occur in wetlands in any region, it is not on the NWPL. The 2008 Supplement does not use ± facultative values. Only plant species with hydrophytic indicators of OBL, FACW, and FAC will be considered for the definition of federally defined wetland (e.g., the hydrophytic plant community wetland parameter) (Environmental Laboratory 1987).
[b] *Tamarix parviflora* is the synonym for this plant species in the NWPL (Lichvar 2013).
[c] *Eleocharis palustris* is the synonym for this plant species in the NWPL (Lichvar 2013).

## Southern Willow Scrub (Holland Code 63320)

Southern willow scrub is a dense, broad-leaved, winter-deciduous riparian thicket dominated by several species of willows in association with mulefat. Scattered individuals of cottonwood and California sycamore may exist as canopy emergents. This is an early seral community that requires periodic flooding for its maintenance (Oberbauer et al. 2008). In the absence of periodic flooding, this community would develop into a riparian woodland or forest.

Within the northern portion of the survey area, near the East Mesa Detention Facility southern willow scrub has developed in ephemeral drainages supplemented by limited urban runoff. This area is dominated by sandbar willow, tamarisk, mulefat, coyote bush, and cattail. The southern willow scrub is restricted to the drainage feature.

## B. Soils

As addressed in Section V, above, only those soils within the survey area that are listed as hydric, have diagnostic hydric properties and/or features, have hydric inclusions, meet the criteria and/or definition for a hydric soil, or have the potential for being hydric by definition are addressed herein.

Two soil series, with their respective phase(s) occur within the survey area. The two soil series (Huerhuero and Stockpen) with their respective phase(s) are listed on the National List of Hydric Soils (NRCS 2013f) (Table 6). The two hydric soils occurring within the survey area are described below. All mapped hydric soils occurring within the survey area are highlighted in Figure 5.

**Table 6**
**Hydric Soils Occurring within the Survey Area**

| Hydric Soil Series/Land Type | Phase |
|---|---|
| Huerhuero | loam, 2 to 9% slopes |
| Stockpen | gravelly clay loam, 2 to 5 percent slopes |

### Huerhuero Series

The Huerhuero series consists of moderately well-drained loams that have a clay subsoil. These soils developed in sandy marine sediments and have slopes that range from 2 and 30%. The soil phase of this series within the survey area is Huerhuero loam, 2 to 9% slopes. In a representative profile, the surface layer is brown and pale-brown, strongly acid and medium acid loam about 12 inches thick. The upper part of the subsoil is brown, moderately alkaline clay. It extends to a depth of about 41 inches. Below this, and extending to a depth of more than 60 inches, is brown, mildly alkaline clay loam and sandy loam (Bowman 1973). Huerhuero loam, 2 to 9% slopes, is on the National List of Hydric Soils (NRCS 2013f) and on the San Diego Hydric Soil List (SCS 1992).

Stockpen Series

The Stockpen series consists of deep, moderately well drained clay soils that formed in alluvium. Stockpen soils are on marine terraces that have slopes of up to 5 percent (Bowman 1973; NRCS 2013g). The soil phase within the survey area is Stockpen gravelly clay loam, 2 to 5 percent slopes. In a representative profile, the surface layer is gray gravelly loam, slightly alkaline about 12 inches thick. The upper part of the subsoil is dark gray, moderately alkaline clay loam. It extends to a depth of about 18 inches. Below this, and extending to a depth of more than 60 inches, is olive gray blocky clay (Bowman 1973). Huerhuero loam, 2 to 9% slopes, is on the National List of Hydric Soils (NRCS 2013f). During field investigation, it was observed that portions of this soil series occurring within the survey area have been transformed to fill material from nearby development.

## C. Hydrology

Wetland hydrology occurring within the survey area is related to:

1. Drainage features (including infrastructure related hydromodification for stormwater)

Drainage Features

Drainage features (ephemeral to intermittent), as a component of the larger surrounding storm water infrastructure, conveys surface flows across the survey area. There are several developed and incidental drainages occurring within the survey area.

In the northern portion of the survey area the largest drainage features occurring within the survey area are O'Neal Canyon Creek and Johnson Canyon Creek. Both drainages have been altered within (or near) the survey area (Johnson Canyon Creek has been culverted for the Alta Road crossing and O'Neal Canyon Creek has been culverted for the Alta Road crossing and hydromodified for flood control [near the intersection of Alta Road and Paseo De la Fuente]). The associated tributaries of these two large drainages (or more smaller intermittent drainage features) also support wetland development. These hydrological inputs originate from the surrounding San Ysidro Mountains to the northeast. Surface flow conveyance occurs primarily following storm events and eventually flows northwest towards a confluence with the Otay River and eventually the Pacific Ocean

In the southern portion of the survey area near the international border (which also conveys this urban runoff southward into Mexico [and eventually into the Tijuana River]). Small ephemeral drainages and swales essentially convey (and potentially retain) storm water runoff from foothills of the San Ysidro Mountains and into the grasslands to the point of supporting and maintaining the development of wetland hydrology within and abutting its banks.

Hydromodification, which is related to the limited development surrounding the survey area, has also supported the creation (or expansion and persistence) of wetland communities, by slowing down and retaining surface water for longer periods of time. Infrastructure such as the compacted dirt service roads (e.g., Alta Road [presenting a raised grade that crosses natural drainages and swales]) and stormwater conveyance features (e.g., drains and culvert crossings) have contributed to wetland development in this semi-arid vicinity that generally supports unvegetated ephemeral drainages (Figure 6 and Figure 7).

## D. Potential Waters of the U.S. and State

The collective area of potential waters of the U.S. and state that occur within the survey area totals approximately 0.259 acre.[56] Of this total, approximately 0.136 acre are potential waters of the U.S. under the purview of USACE, RWQCB, and CDFW which consist of approximately 0.035 acre of southern willow scrub, 0.079 acre of concrete lined channel and a culvert, and 0.021 acre of nonvegetated channel (Table 7). The remainder of the jurisdictional resources within the survey area is exclusively under the purview of CDFW (these features do not meet the definition of waters of the U.S. as defined at 33 CFR 328.3) and are composed of a total of 0.123 acre of tamarisk scrub (Table 7).

An overview of location and distribution of potential jurisdictional waters of the U.S. and state (including wetlands), delineation field transects, field data points, and representative photopoints occurring within the survey area are provided in Figure 8. Detail maps (including locations of the field photographs taken during the field delineations) are provided in Figures 8a through 8t). Representative survey area photographs of the field delineation are included in Figures 9 through 14.

[56] The jurisdictional status will be based on a Preliminary Jurisdictional Determination (see below and Attachment D).

**Table 7**
**Potential Jurisdictional Waters of the U.S. and State Occurring within the Survey Area[a]**

| Type of Potential Jurisdictional Waters | Type of Habitat (Holland 1986; Oberbauer et al. 2008) | Type of Habitat (Cowardin et al. 1979) | Area of Aquatic Resource in Survey Area (acres)[b] | Regulatory Authority |
|---|---|---|---|---|
| Wetland | Southern Willow Scrub (63320) | Palustrine; Scrub/Shrub Broad-leaved, Deciduous, Seasonally Flooded, Fresh | 0.035 | CDFW, RWQCB, and USACE |
| Riparian | Tamarisk Scrub (63810) | N/A | 0.123 | CDFW |
| Other Waters (Drainage Features [OHWM]) | Culvert, concrete-lined channel | N/A | 0.079 | CDFW, RWQCB, and USACE |
| Other Waters (Drainage Features [OHWM])/ Nonvegetated Channel | Nonvegetated Channel (64200) | Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh | 0.021 | CDFW, RWQCB, and USACE |
| **Total Potential Jurisdictional Waters of the U.S. and State** | | | **0.259** | |

[a] Based on the total area of potential waters of the U.S. (including wetlands) delineated within the survey areas. Final acreages of waters of the U.S. will be based on the JD process per the March 30, 2007, U.S. Army Corps of Engineers Jurisdictional Determination Form Guidebook; the June 5, 2007, Approved JD Form; the June 5, 2007, Joint Guidance Memorandum; and RGL 08-02 and December 2, 2008, Guidance Memorandum.
[b] Acreage of potential waters of the U.S. (including wetlands) occurring within the survey area were determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

## E. Jurisdictional Determination for Waters of the U.S.

Acreages of potential waters of the U.S. (including wetlands) delineated in the survey area are potentially subject to change by USACE during the JD process.

A JD relates to whether USACE would require authorization of CWA Section 404 for certain discharge activities in waters of the U.S. All waters and wetlands (including final acreages and types) delineated within the survey area are considered potential waters of the U.S. prior to a formal JD performed by USACE. USACE's final JD may remove portions of the delineated waters summarized herein from being considered as jurisdictional and/or may include additional waters that were not considered as jurisdictional during the field delineation (and, thus, not included in this wetland delineation report).

Determining whether the delineated potential waters of the U.S. (including wetlands) are, in fact, jurisdictional and under the regulatory administration of USACE, and the final acreages and

types of waters of the U.S. (including wetlands) within the survey area, is primarily based on the procedures and guidance outlined by the following:[57]

a. The June 5, 2007, USACE/USEPA Memorandum Re: Jurisdiction Following The U.S. Supreme Court Decision In Rapanos v. United States on the interpretation of the Rapanos Supreme Court case for making a Jurisdictional Determination (JD) for waters of the U.S. (including wetlands) (USEPA 2007).[58,59] This memorandum provides guidance to USEPA and USACE on implementing the Rapanos Supreme Court decision.

b. The June 5, 2007, USEPA/USACE Memorandum for the Field: Coordination on JDs under the CWA in light of SWANCC and Rapanos Supreme Court decisions.[60] This memorandum outlined procedures that replace the coordination procedures contained in the January 2003 USEPA/USACE guidance implementing the SWANCC decision (but leaves the remainder of that guidance unaffected) and articulates new coordination procedures for JDs affected by Rapanos (USEPA 2007).[61]

c. The May 5, 2007, USACE Jurisdictional Determination Form Instructional Guidebook (USEPA 2007) and the Approved JD Form.

d. The June 5, 2007, USACE RGL 07-01. Practices for Documenting Jurisdiction under CWA Section 404 (and Rivers and Harbors Act CWA Sections 9 and 10). This RGL provides coordination requirements for Approved JDs and outlines a consistent approach for making, documenting, and approving JDs in a timely manner by USACE. This RGL also outlines the differences between Approved JDs and Preliminary JDs.

e. The January 28, 2008, Coordination Memorandum. This memorandum outlined the process for coordinating JDs with USEPA and USACE.

f. The June 26, 2008, USACE RGL 08-02. This RGL primarily explains the goals of a Preliminary JD and differences between Approved JDs and Preliminary JDs. This RGL provides guidance on when an Approved JD is required and when a landowner, permit applicant, or other "affected party" can decline to request and obtain an Approved JD

[57] This delineation followed these procedural guidance documents to ascertain the jurisdictional status of all delineated waters (including wetlands) occurring within the survey area.
[58] "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*" (June 5, 2007).
[59] 126 S. Ct 2208 (2006). This case was consolidated with *Carabell v. United States*.
[60] "Memorandum for Director of Civil Works and USEPA Regional Administrators" (June 5, 2007).
[61] "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*" (June 5, 2007).

and elect to use a Preliminary JD instead.[62,63] This RGL also outlines that it is the goal of USACE that every JD requested by an affected party should be completed within 60 calendar days of receiving the request.[64]

g. The December 2, 2008, USACE Guidance Memorandum Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States. This guidance incorporates revisions to the USEPA/USACE memorandum originally issued on June 6, 2007, after careful consideration of public comments received and based on the agencies' experience in implementing the Rapanos decision.

h. The December 2, 2008, USACE Response To Comments "Clean Water Act Jurisdiction Following The Supreme Court's Decision in Rapanos v. United States & Carabell v. United States Guidance," issued June 5, 2007.

i. The December 2, 2008, USACE Questions and Answers Regarding the Revised Rapanos & Carabell Guidance.

This JDR presents 0.14 acre of potential waters of the U.S. (including wetlands) out of a combined total of 0.26 acre of potential Waters of the U.S. and Waters of the State. The final acreages of waters of the U.S. (including wetlands) within the survey area will be based on the JD process per the USACE/USEPA guidance and procedure for Rapanos (see above).

Preliminary JD Form for Potential Jurisdictional Waters of the U.S.

Based on RGL 08-02, the permit applicant may elect to use a Preliminary JD to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner, permit applicant, or other "affected party"[65] to move ahead expeditiously to obtain CWA Section 404 permit authorization where applicants determine that is in their best interest to do so.

[62] Generally, Approved JDs should be used to support individual permit applications, but applicants should be made aware of their option to elect to use a Preliminary JD wherever applicants feel doing so is in their best interest (RGL 08-02 [paragraph 4(h)]).
[63] RGL 08-02 (paragraph 4) outlines that Preliminary JDs cannot be appealed.
[64] RGL 08-02 (paragraphs 4[a] and 5[a]).
[65] As defined in RGL 08-02 and at 33 CFR 331.2, "affected party" means a permit applicant, landowner, a lease, easement, or option holder (i.e., an individual who has an identifiable and substantial legal interest in the property) who has received an Approved JD or permit denial or has declined a proffered individual permit.

Preliminary JDs do not make an official determination of jurisdictional waters and are nonbinding advisements that potential waters of the U.S. (including wetlands) may be present within a site and therefore should be assumed to be jurisdictional by USACE.[66] A Preliminary JD is not appealable under the USACE appeal process because it is not an official JD.[67] If a Preliminary JD is received by USACE, an Approved JD can always be requested by the applicant at a later time, if necessary. Preliminary JDs cannot be used for determining whether a site has no aquatic features, no potential jurisdictional waters of the U.S. (including wetlands), geographically isolated waters and/or wetlands, or some jurisdictional and some nonjurisdictional waters.

This JDR and one Preliminary JD Form (Attachment D) is meant to provide assistance and support to USACE (Los Angeles District, South Coast Branch, Carlsbad Field Office)[68] to determine that approximately 0.14 acre of delineated aquatic features (in the form of federally defined wetlands and other waters) "may be" waters of the U.S. and, thus, under its regulatory administration.[69] For this jurisdictional delineation, a Preliminary JD Form was prepared to present the following:

- 0.03 acre of aquatic features (in the form of federally defined wetland) that "may be" jurisdictional waters of the U.S. directly abutting and/or adjacent to a nonnavigable "non-relatively permanent waterway" (non-RPW) (e.g., the unvegetated ephemeral channel occurring within the survey area) that presents a "significant nexus" (SNX) by flowing indirectly (via the Tijuana River [an RPW]) into a traditional navigable water (TNW) (the Pacific Ocean)
- 0.11 acre of aquatic features (in the form of federally defined "other waters" [composed of unvegetated ephemeral channel]) that "may be" jurisdictional waters of the U.S. that are nonnavigable tributaries that are non-RPWs that flow indirectly (via the Otay and Tijuana Rivers) into a TNW (the Pacific Ocean)

The completed Preliminary JD Form for this jurisdictional delineation is located in Attachment D.

[66] RGL 08-02 Paragraph 4 and 33 CFR 331.2.
[67] RGL 08-02 Paragraph 2(a)(1) and Paragraph 2(b)(1).
[68] The USACE district engineer retains the discretion to use an Approved JD in any other circumstance where he or she determines that it is appropriate given the facts of the particular case (RGL 08-02 [4][c]).
[69] Sections 4 and 7 of RGL 02-08.

Electronic Waters Upload Sheets for Potential Jurisdictional Waters

A separate electronic version of the Waters Upload Sheet (collectively containing all formally delineated potentially jurisdictional waters) is provided on CD-ROM in Attachment E of this JDR. This electronic file is provided so that USACE can automatically populate the data fields in its Operations Regulatory Module (ORM) database.

## F. Nonjurisdictional Features of the U.S.

In taking into account federal definitions of waters of the U.S. (e.g., 33 CFR 328) and procedural guidance discussed herein, several features occurring within the survey area were determined by this JDR not to be potential waters of the U.S. The features observed and noted during the formal field delineation and not considered jurisdictional in this report are the following:

a. All swale features. Swales are not considered as potential waters of the U.S. Based on the 2007 USACE/USEPA guidebook and June 5, 2007, USACE Joint Guidance Memorandum, swale features are generally not waters of the U.S. because they are not tributaries nor do they exhibit an OHWM (as defined by 33 CFR Part 328.3[e] and identified in RGL 05-05), and they are characterized by the conveyance of a low volume of surface water and infrequent and short duration flow without an SNX to a TNW (in this case, the Pacific Ocean). Considering these conditions, it is anticipated that the swales within the survey area would not be considered waters of the U.S. by USACE.

b. All drainage ditches and culverts that have been constructed wholly in uplands and/or drainage ditches that support wetland but are artificially irrigated and that wetland will revert to upland once irrigation ceases, and/or ditches that do not drain or connect waters of the U.S., and/or culverts and ditches with connectivity to a municipal separate storm sewer system or MS4. These features can be considered point sources,[70] but not navigable waters. These features are essentially structures that have been constructed in uplands (nonwetlands, non-other waters of the U.S.) to catch surface sheet flow and to divert the concentrated flows around developed areas. These features are not relictual or historic natural tributaries of waters of the U.S., nor do they present themselves as a non-RPW and/or RPW. Additionally, these features do not connect two (or more) waters of the U.S., nor are they historical waters of the U.S. that have been channelized or realigned/rerouted. These features are specifically designed to drain upland surface flows and are characterized by low-volume, infrequent, or short duration flows. Some of

[70] 33 U.S. Code §1362(14).

these structures are also located in obvious upland swales or erosional features. These features would also be considered exempt and consistent with CWA Section 404(f).[71] If any of these sites come into question in regard to possible 404 jurisdiction, the specific site in question will be evaluated further by USACE regulatory staff, since federal entities are responsible for making a good faith effort to comply with the overall intent of the CWA and to interpret the various guidance associated with carrying out CWA requirements.

c. Erosional features and gullies.

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# ATTACHMENT A

# FIGURES

Otay Mesa Conveyance and Disinfection System Project JDR

Path: P:\20136028393\9_Otay_Mesa\06GIS\6.3_Layout\Waters\Regional_map.mxd, 10/24/2013, SteinB

Source: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

12.5 0 12.5 Miles

Scale: 1 = 792,000; 1 inch = 12.5 miles

**Figure 1**
**Regional Map**

Source: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

**Figure 2**
**Project Vicinity**

Image courtesy of USGS © 2014 Microsoft Corporation © 2014 Nokia © AND ; NHD; CalWater 2013

2,000 1,000 0 2,000 Feet

Scale 1:24,000; 1 in = 2,000 feet

**Figure 3**
**Survey Area**

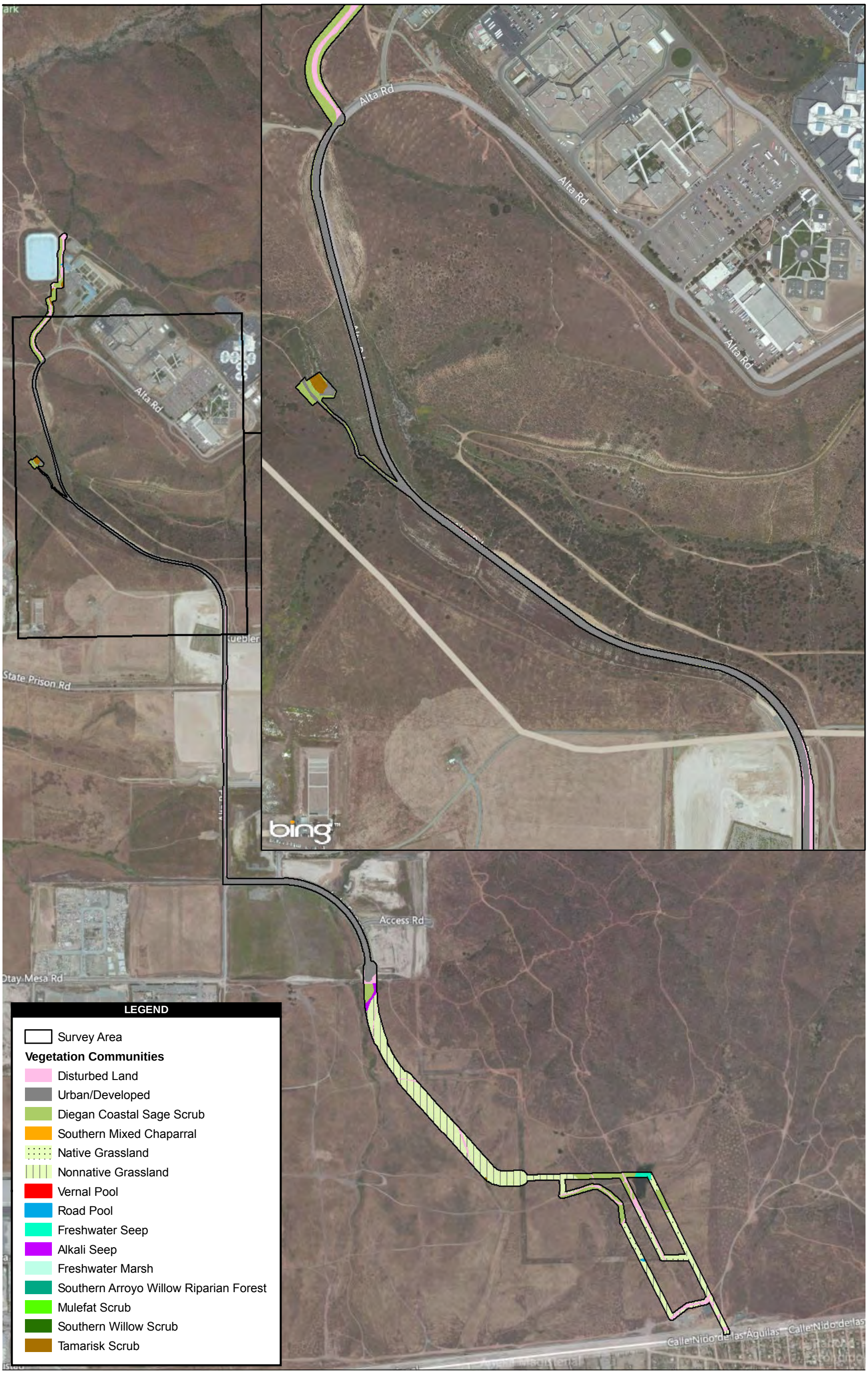



Image courtesy of USGS © 2014 Microsoft Corporation © 2014 Nokia © AND ; AECOM 2014

0.25 0.125 0 0.25 Miles

Scale 1:15,840; 1 in = 0.25 mile

**Figure 4**
**Vegetation Communities**

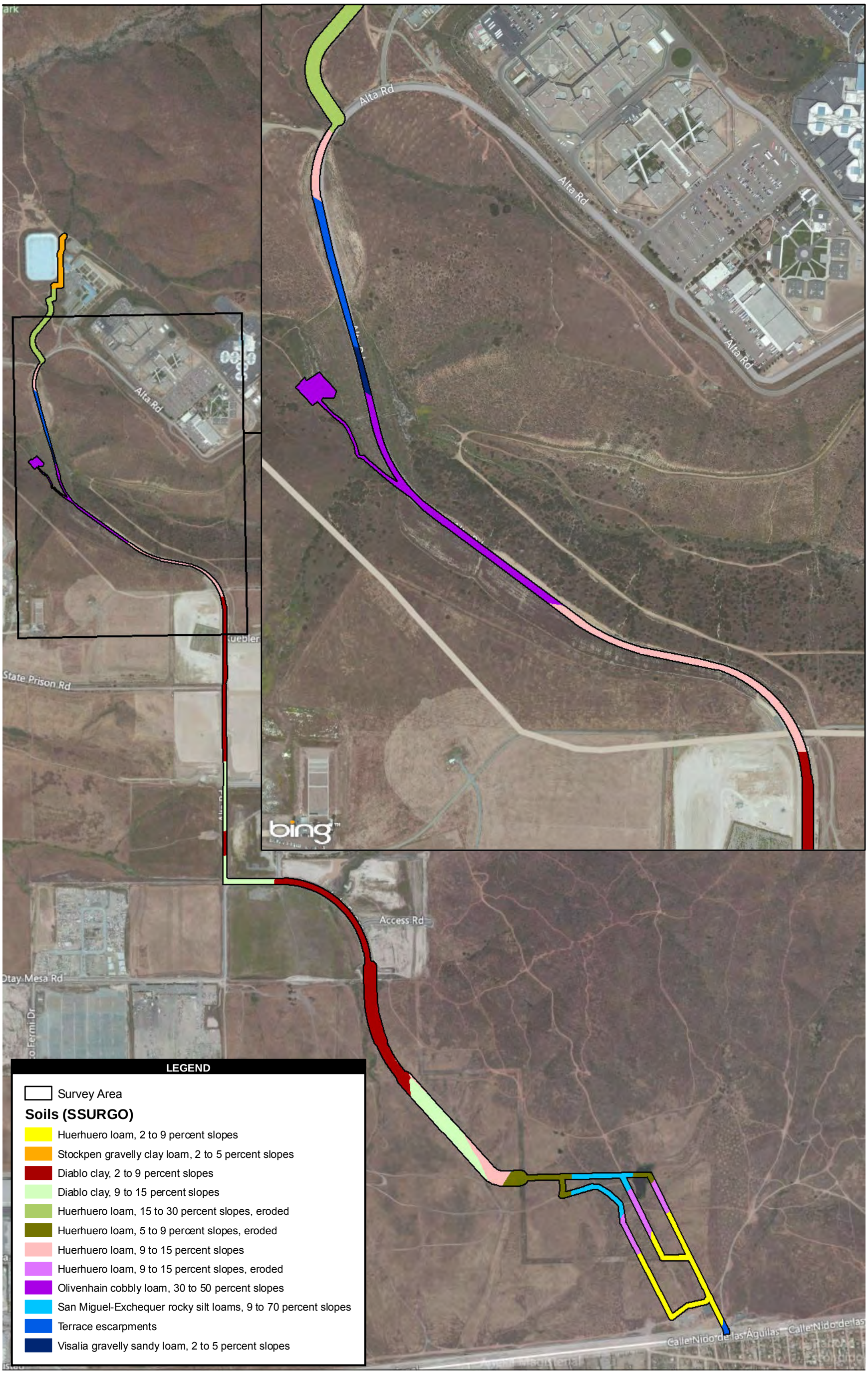
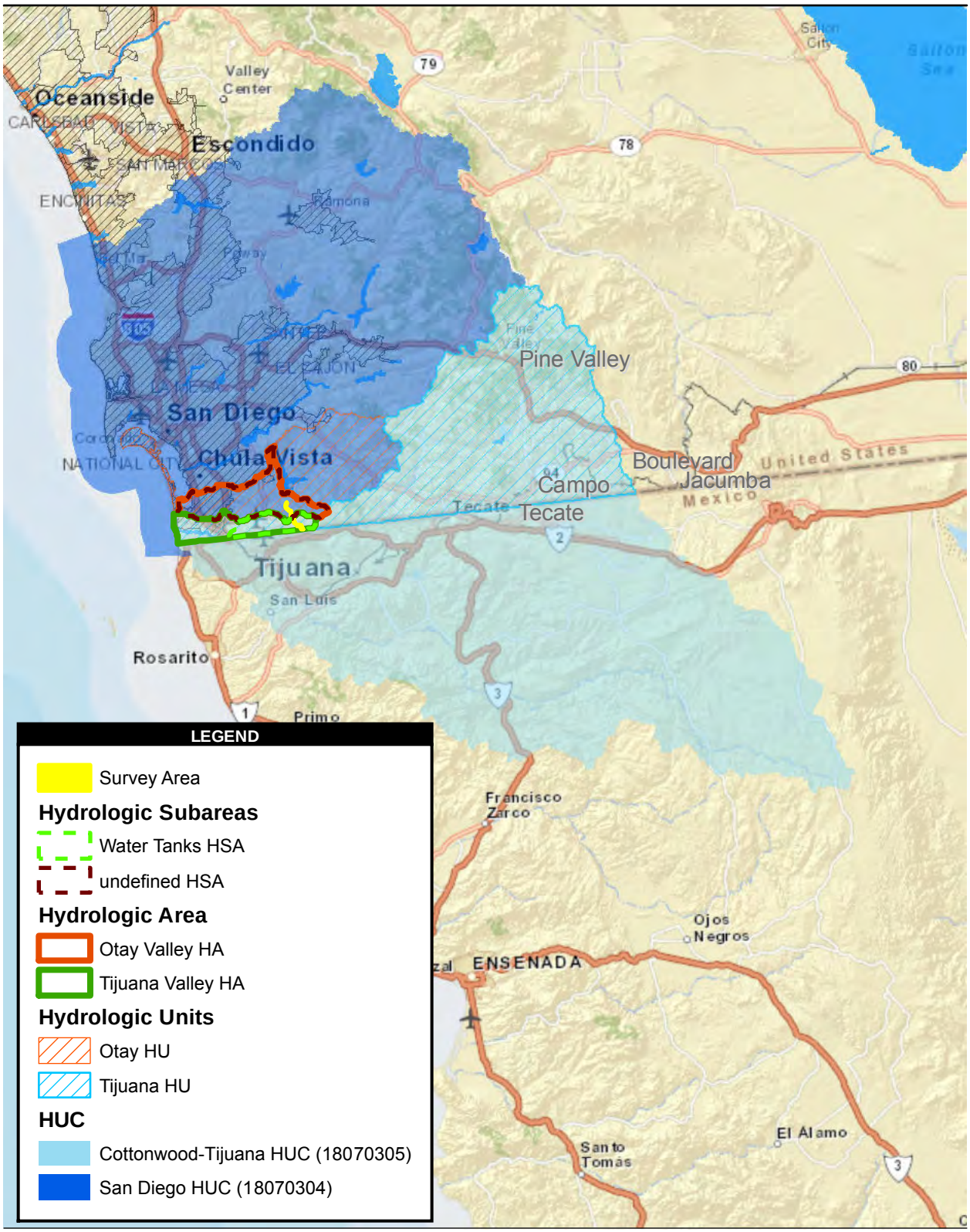



Image courtesy of USGS © 2014 Microsoft Corporation © 2014 Nokia © AND ; AECOM 2014

0.25 0.125 0 0.25 Miles

Scale 1:15,840; 1 in = 0.25 mile

**Figure 5**
**Soils**




Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013; NHD; CalWater 2013

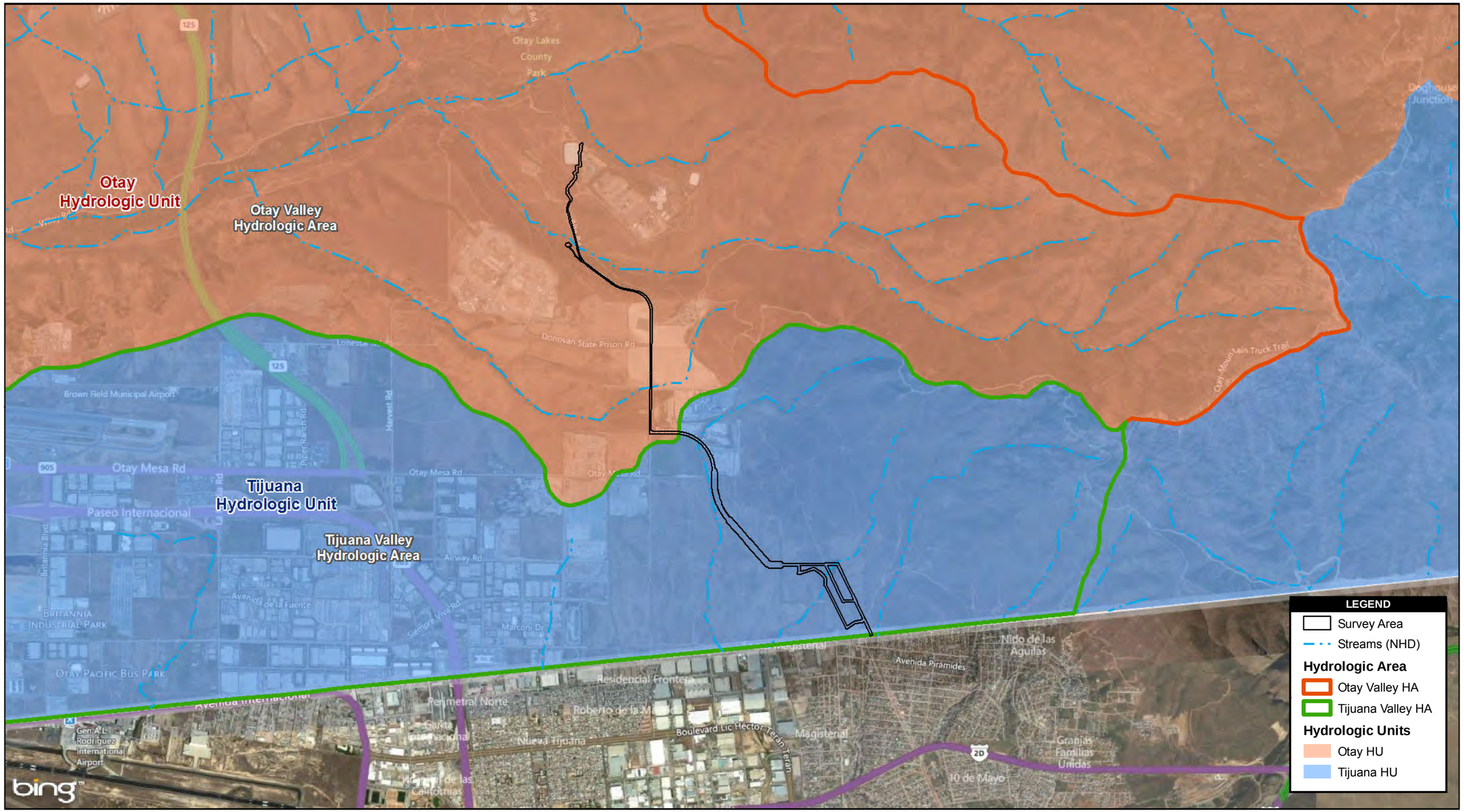
16 8 0 16 Miles

Scale 1:1,000,000; 1 in = 16 miles

**Figure 6**
**Watersheds**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\Watersheds.mxd, 10/28/2013, SteinB*




Source: Image courtesy of USGS © 2015 Microsoft Corporation © 2015 Nokia © AND ; CalH20; NHD 2013

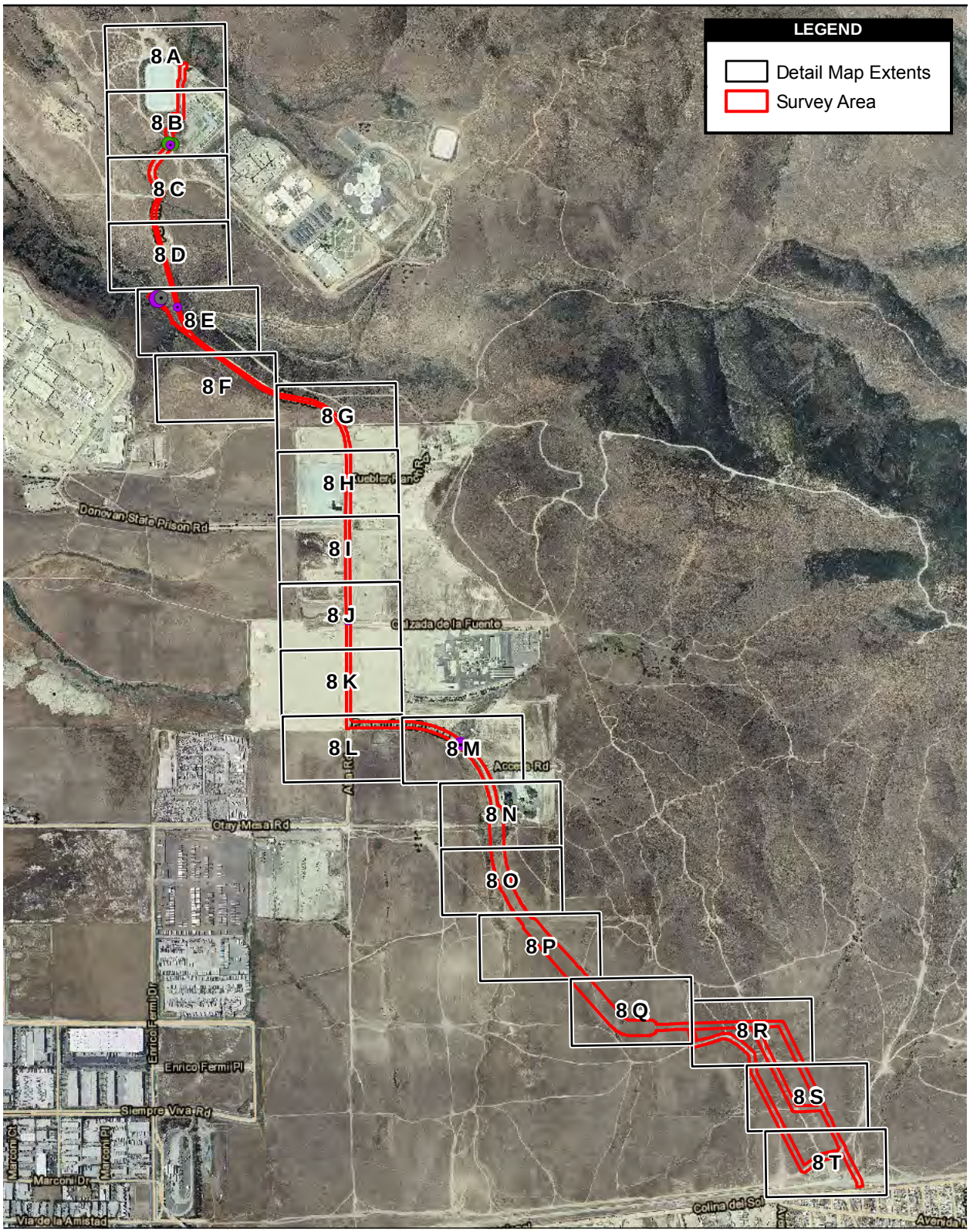
3,000 0 3,000 Feet

Scale: 1:36,000; 1 inch = 3,000 feet

**Figure 7**
**Surface Hydrology**

Otay Mesa Conveyance and Disinfection System Project JDR

*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\Hydrology.mxd, 2/4/2015, steinb*




Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors; NHD; CalWater 2013

2,000 1,000 0 2,000 Feet

Scale 1:24,000; 1 in = 0 miles

**Figure 8**
**Potential Waters**
**Detail Map Overview**

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 A**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 B**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 C**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 D**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 E**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 F**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 G**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 H**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

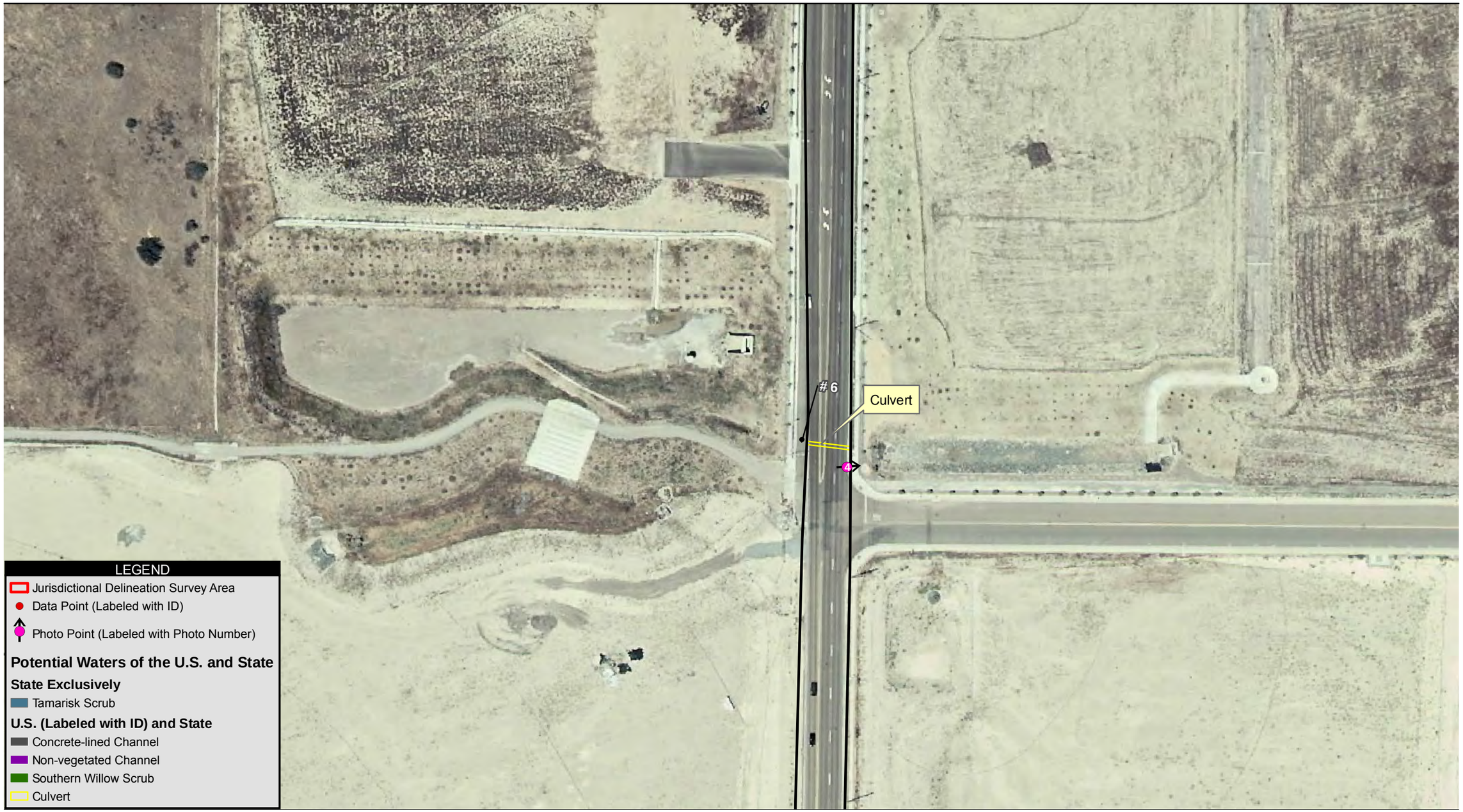
100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 I**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*




Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 J**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 K**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 L**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 M**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 N**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 O**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

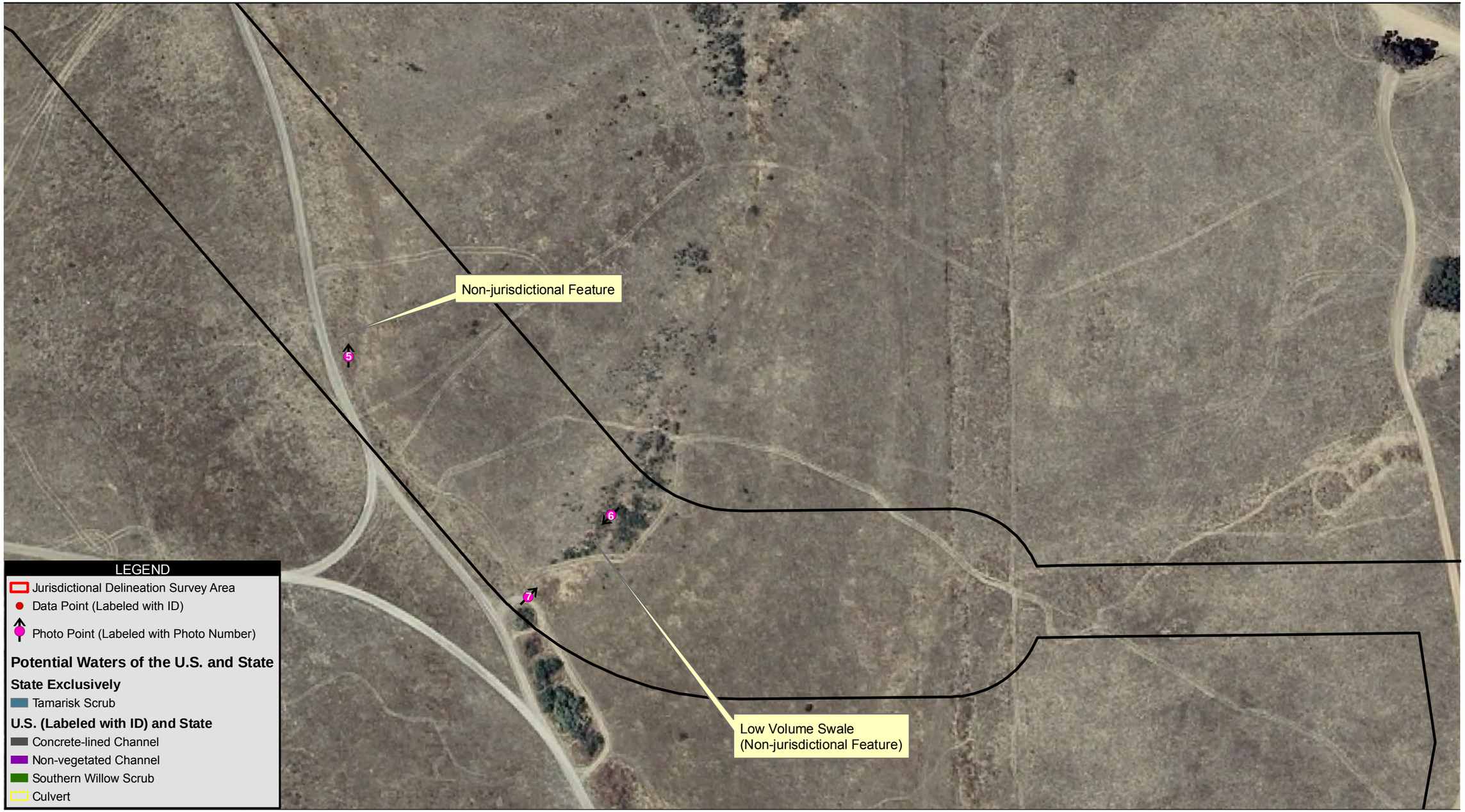
100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 P**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*




Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 Q**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 R**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 S**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Source: ; AECOM; ATKINS 2013

100 50 0 100 Feet

Scale: 1:1,300; 1 inch = 108 feet

**Figure 8 T**
**Potential Jurisdictional Waters of the U.S. and State**



*Path: P:\2013\60283939_Otay_Mesa\06GIS\6.3_Layout\Waters\PotentialWaters.mxd, 2/4/2015, steinb*

Photograph 1: Looking north at disturbed Southern Willow Scrub.

Photograph 2: Looking northwest at culvert and O'Neal Canyon Creek.

**9**

**Representative Photographs 1 and 2**

Photograph 3: Looking south at roadside stormwater ditch (nonjurisdictional feature).

Photograph 4: Looking east at channelized portion of Johnson Canyon Creek.

**10**

**Representative Photographs 3 and 4**

Photograph 5: Looking north at a non-jurisdictional low area near the road. Although this area may pond after storm events, it does not support an OHWM, bed and bank, or hydrophytic vegetation.

Photograph 6: Looking southeast at a non-jurisdictional low-volume swale. It does not support an OHWM, bed and bank, or hydrophytic vegetation and does not appear to have the potential to create a streambed.

**11**

**Representative Photographs 5 and 6**

Photograph 7: Looking northwest at the same non-jurisdictional low-volume swale. This is a topographical feature (i.e. low point in the land) and abates into uplands.

Photograph 8: Looking northwest at a non-jurisdictional low-volume swale/trail. Due to the topography of the area, low-volume flows may occur within this area after storm events. However, there were no evidence of OHWM or bed and bank within the length of this feature.

**12**

**Representative Photographs 7 and 8**

Photograph 9: Looking northeast at nonnative grassland occurring outside (southwest) and above a large depressional area. The depressional area has been created by the placement and construction of the dirt service road which impounds surface drainage northeast of this road. The project area is occurs on an incline above (and outside) the depressional area. The lower depressional area (below [northeast] of the project areas) does support wetland.

Photograph 10: Looking southeast at a non-jurisdictional low-volume swale. Rock fill was placed on either side of the hill slopes within this area, creating a small topographical feature. However, no OHWM or bed and back have developed within this feature.

Photograph 11: Looking west at the same non-jurisdictional low-volume swale, the feature quickly abates into uplands and is no longer can be distinguished from the surrounding area.

# ATTACHMENT B

# WETLAND DETERMINATION DATA FORMS – ARID WEST REGION (VERSION 2.0)

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Conveyance and Disinfection System City/County: Otay Mesa/San Diego Sampling Date: 09-09-13

Applicant/Owner: Otay Water District State: CA Sampling Point: T2.1

Investigator(s): L. Cervantes and J. Zinn Section, Township, Range: Section 19, Township 18S, Range 01E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None (head of slope) Slope (%): 3

Subregion (LRR): C - Mediterranean California Lat: 32.592684 Long: -116.926666 Datum: NAD 83

Soil Map Unit Name: Huerhuero loam, 15 to 30 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ◯ | No ◉ | |
| Hydric Soil Present? | Yes ◯ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ◯ No ◉ |
| Wetland Hydrology Present? | Yes ◯ | No ◉ | |

Remarks: Field datapoint taken within unvegetated compacted dirt service road abutting incidental drainage feature on road (which supports no OHWM). Therefore, this field datapoint is an upland confirmation point.

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | % | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | % | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | % | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | % | | |

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust %

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | | x 1 = | 0 |
| FACW species | | x 2 = | 0 |
| FAC species | | x 3 = | 0 |
| FACU species | | x 4 = | 0 |
| UPL species | | x 5 = | 0 |
| Column Totals: | (A) | | 0 (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ◯ No ◉

Remarks: Unvegetated compacted dirt service road

## SOIL

Sampling Point: T2.1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 3/3 | 100 | | | | | Loam | Some gravel from fill |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Compacted

Depth (inches): 6

**Hydric Soil Present?** Yes ○ No ◉

Remarks: Huerhuero loam, 15 to 30 percent slopes, eroded is not listed as hydric by the NRCS. Soil at point of investigation is is compacted and presents small gravel and rock (likely from fill events in the construction and maintenance of the service road this field data point abuts). Hydrophytic vegetation and wetland hydrology are not present (either by themselves or simultaneously) at the point of investigation. Therefore this soil is not considered to be hydric and the potential for this soil, at the point of investigation, to be considered 'hydric by definition', is none.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): |

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed at the point of investigation.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Conveyance and Disinfection System City/County: Otay Mesa/San Diego Sampling Date: 09-09-13

Applicant/Owner: Otay Water District State: CA Sampling Point: T2.2

Investigator(s): L. Cervantes and J. Zinn Section, Township, Range: Section 19, Township 18S, Range 01E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None (head of slope) Slope (%): 3

Subregion (LRR): C - Mediterranean California Lat: 32.592685 Long: -116.926684 Datum: NAD 83

Soil Map Unit Name: Huerhuero loam, 15 to 30 percent slopes, eroded NWI classification: PSSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ◉ | No ◯ | |
| Hydric Soil Present? | Yes ◉ | No ◯ | **Is the Sampled Area within a Wetland?** Yes ◉ No ◯ |
| Wetland Hydrology Present? | Yes ◉ | No ◯ | |

Remarks: Field datapoint taken within vegetated area near road shoulder of compacted dirt service road. Area was classified as palustrine scrub shrub wetland under the NWI. Area receives drainage and surface water inputs. Please see Figures 8 (overview) and 8B (Detail) and Figure 10, Photograph 3 for general overview of the point of investigation.

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | % | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima* | 20 | Yes | FAC |
| 2. *Salix lasiolepis* | 10 | Yes | FACW |
| 3. *Baccharis salicifolia* | 10 | Yes | FAC |
| 4. *Baccharis pilularis* | 5 | No | Not Listed |
| 5. *Isocoma menziesii* | ≤5 | No | FAC |
| Total Cover: | 45 % | | |
| **Herb Stratum** | | | |
| 1. *Festuca perennis* | 30 | Yes | FAC |
| 2. *Juncus bufonius* | 5 | No | FACW |
| 3. *Bromus madritensis* | 5 | No | UPL |
| 4. *Lamarckia aurea* | 5 | No | UPL |
| 5. *Bromus madritensis subsp. rubens* | 5 | No | UPL |
| 6. *Rumex crispus* | 5 | No | FAC |
| 7. *Conyza canadensis* | ≤5 | No | UPL |
| 8. | | | |
| Total Cover: | 55 % | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | % | | |

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 65 | x 3 = | 195 |
| FACU species | | x 4 = | 0 |
| UPL species | 20 | x 5 = | 100 |
| Column Totals: | 100 (A) | | 325 (B) |

Prevalence Index = B/A = 3.25

**Hydrophytic Vegetation Indicators:**

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ◉ No ◯

Remarks: This is disturbed southern willow scrub that is supported by redirected drainage/urban runoff.

## SOIL

Sampling Point: T2.2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 3/3 | 100 | | | | | Silt Loam | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks: Huerhuero loam, 15 to 30 percent slopes, eroded is not listed as hydric by the NRCS National List of Hydric Soils. No hydric soil field indicators observed. However, guidance for using soil surveys in the arid west region is found in the 2008 Arid West Region (Version 2.0) Supplement: Chapter 3 (Hydric Soil Indicators), page 34, Use of existing soil data; soil surveys, which emphasizes ground-truthing to document the soil survey. It appears that the soil investigated at this point is composed of fluvial sediments with both hydrophytic vegetation and wetland hydrology being simultaneously present at the point of investigation which supports the soil to be considered as hydric by definition.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1) (**Nonriverine**)
- ☒ Sediment Deposits (B2) (**Nonriverine**)
- ☒ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ◉ | No ○ | Depth (inches): 0 |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): Unknown |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): |

**Wetland Hydrology Present?** Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland receives direct surface drainage inputs and retains water prior to draining downslope.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Conveyance and Disinfection System City/County: Otay Mesa/San Diego Sampling Date: 09-09-13

Applicant/Owner: Otay Water District State: CA Sampling Point: T4.1

Investigator(s): L. Cervantes and J. Zinn Section, Township, Range: Section 32, Township 18S, Range 01E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None (toe of slope) Slope (%): 3

Subregion (LRR): C - Mediterranean California Lat: 32.559113 Long: -116.900810 Datum: NAD 83

Soil Map Unit Name: Huerhuero loam, 15 to 30 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ◯ | No ◉ | |
| Hydric Soil Present? | Yes ◯ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ◯ No ◉ |
| Wetland Hydrology Present? | Yes ◯ | No ◉ | |

Remarks: Field datapoint taken within the high point of a large depressional area. The project area is occurs on an incline above (and outside) the depressional area where wetland occurs (in the lower areas). Area of investigation was borderline nonnative grassland. Therefore, this field datapoint is an upland confirmation point.Please see Figures 8 (overview) and 8Y (Detail) and Figure 14, Photograph 11 for general overview of the point of investigation.

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | % | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | % | | |
| **Herb Stratum** | | | |
| 1. *Festuca perennis* | 35 | Yes | FAC |
| 2. *Avena barbata* | 25 | Yes | UPL |
| 3. *Phalaris aquatica* | 25 | Yes | FACU |
| 4. *Bromus madritensis subsp. rubens* | 10 | No | UPL |
| 5. *Erodium cicutarium* | ≤5 | No | UPL |
| 6. *Rumex crispus* | ≤5 | No | UPL |
| 7. | | | |
| 8. | | | |
| Total Cover: | 95 % | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | % | | |

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | | x 1 = | 0 |
| FACW species | | x 2 = | 0 |
| FAC species | 35 | x 3 = | 105 |
| FACU species | 25 | x 4 = | 100 |
| UPL species | 35 | x 5 = | 175 |
| Column Totals: | 95 (A) | | 380 (B) |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ◯ No ◉

Remarks: This is disturbed coastal sage scrub transitioning towards a more mesic vegetation coimmunity as a result of development and urban runoff from the nearby detention facility. Overstory tended to be more hydrophytic. However, herbaceous understory tended to be more upland. Chapter 5 (pages 90-91) of the 2008 Supplement places emphasis on the understory if soil(s) are lacking hydric indicators and that the understory presents more normal conditions rather than a period with excessive rainfall and/or relatively new runoff to assist in establishing a hydrophytic understory.

## SOIL

Sampling Point: T4.1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 3/4 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks: Huerhuero loam, 15 to 30 percent slopes, eroded is not listed as hydric by the NRCS. Negative α,α-dipyridyl test at point of investigation. Soil at the point of investigation presents a strong aerobic actinomycetes odor typical of upland or grassland soils. The nearby area has been transformed (and filled to some extent) from road development. The road has created a large impounded area that does retain surface water. Point of investigation is a transitional point. However, the point of investigation is located at a high-point above depressional area and hydric soil are likely to be found at the lower areas of the large depressional feature. Hydrophytic vegetation is present but not a hydrophytic vegetation community. Additionally, wetland hydrology is also not present at the point of investigation. Therefore this soil is not considered to be hydric and the potential for this soil, at the point of investigation, cannot be considered 'hydric by definition'.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): |

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed at the point of investigation. The point of investigation is located on a incline above the low topographic point. Surface water is somewhat retained by impoundment created by road. However, point of investigation is above any wetland hydrology indicators or condition.

# ATTACHMENT C

# U.S. ARMY CORPS OF ENGINEERS LOS ANGELES DISTRICT NOVEMBER 25, 1997, SPECIAL PUBLIC NOTICE

# SPECIAL PUBLIC NOTICE

## REGIONAL GENERAL CONDITIONS TO THE NATIONWIDE PERMITS

**US Army Corps of Engineers®**
LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION

Date: November 25, 1997
Points of Contact:
San Diego and Imperial Counties - David Zoutendyk (619) 674-5384
Riverside, Orange, San Bernardino Counties and Camp Pendleton - Eric Stein (213) 452-3415
All other California counties in Los Angeles District - Bruce Henderson (805) 641-1128

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TO WHOM IT MAY CONCERN:

The Division Engineer, South Pacific Division Corps of Engineers, upon recommendation of the District Engineer, Los Angeles District announces that effective the date of this public notice the following regional general conditions are added to the nationwide permits and to all valid regional general permits in the portion of the Los Angeles District that is within the state of California (see attached map). These regional general conditions are in effect as of the date of this Public Notice and will remain in effect until further notice.

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**Regional General Condition #1 - Vernal Pool Notification:**

Regional General Condition #1 requires notification to be provided to the District Engineer in accordance with the "Notification" general condition (30 day Pre-Construction Notification) for any discharge of dredged or fill material, excavation, or mechanized landclearing in *any* vernal pool. This regional general condition applies to all nationwide permits and to all valid regional general permits in the portion of the Los Angeles District that is within the state of California. Figure 1 shows the distribution of many of the known vernal pool complexes in Southern California. This figure is not a complete or exhaustive map of every vernal pool, but is meant to provide guidance on areas where vernal pools are known to occur. According to the Los Angeles District of the Corps of Engineers, an area shall be considered a vernal pool if it meets the following definition:

> Vernal pools are wetlands that seasonally pond in small depressions as a result of a shallow, relatively impermeable layer (e.g. clay or other impervious soil or rock layer) that restricts downward percolation of water. The dominant water source for vernal pools is precipitation with pools typically filling after fall and winter rains and evaporating during spring and summer. These seasonal ponds are fragile, easily disturbed ecosystems that provide habitat for indigenous, specialized assemblages of flora and fauna (see attached species list), including several species which are either proposed or already Federally listed as threatened or endangered.

Vernal pools are considered "problem areas" under the Corps of Engineers 1987 Wetland Delineation Manual because one or more of the wetland parameters (soils, hydrology, vegetation) may be periodically lacking due to normal seasonal or annual variations in environmental conditions. The delineation procedures for problem areas outlined in the 1987 Wetland Delineation Manual should be applied to vernal pools.

In addition, an Individual Permit shall be required for any discharge of dredged of dredged or fill material, excavation, or mechanized landclearing associated with a single project which would:

1. result in an aggregate loss or impact to 0.5 acre or greater of vernal pool basin (*i.e* the pool itself exclusive of the surrounding watershed), as defined above AND;
2. where the vernal pool(s) impacted contain at least one vernal pool indicator species (see attached list).

If the discharge of fill would affect less than 0.5 acre of vernal pool or the pool (s) does not contain at least one vernal pool indicator species, only a Pre-Construction Notification is required, and a nationwide permit verification may be considered. The District Engineer retains discretionary authority to require an individual permit for fills which would result in greater than minimal impacts or would be contrary to the public interest.

The following features are generally NOT considered vernal pools and, therefore, would not be subject to this regional general condition: stockponds, road ruts, minor impoundments on drainages, man-made ponds, abandoned borrow sites, and seasonally flooded plains which do not exhibit basin topography. These areas may already be subject to Section 404 regulation and may support vernal pool species, such as fairy shrimp and other invertebrates, pond turtles, amphibians, and various types of waterfowl; however, they are not considered vernal pools.

**Regional General Condition #2 - Nationwide Permit 32, Completed Enforcement Actions:**

Regional General Condition #2 limits the use of NWP 32 to structures, work, or discharge of dredged or fill material remaining in place, or undertaken for mitigation, restoration, or environmental benefit in compliance with a completed enforcement action, provided the structure, work, or discharge of dredged or fill material does not cause the loss of greater than three (3) acres of non-tidal waters of the United States. This modification was proposed to make this NWP consistent with NWP 26 which has an upper threshold of three acres.

**Purpose and Need for the Regional General Conditions**

Vernal pools comprise a severely diminished class of aquatic habitats that form by seasonally ponding in shallow, relatively impermeable depressions primarily as a result of precipitation from winter and spring rains and evaporation following the wet season. Vernal pools are fragile, easily disturbed ecosystems that provide habitat for assemblages of indigenous, highly specialized species of flora and fauna, several of which are either proposed or already Federally listed as endangered or threatened. It has been estimated that up to 97 percent of vernal pools that existed in historical times have been lost through urbanization or agricultural practices.

Further, general permits, including nationwide permits (NWP), are established for projects similar in nature. Such permits authorize projects if they have minimal adverse environmental effects and if they meet specific criteria established for each general permit. In response to comments from agencies and the public, the NWPs were substantially modified to limit potential environmental impacts. The revised permits and conditions were published in the Federal Register dated 13 December 1996 (61 F.R. 65874-65922). Nationwide Permit 32 is anticipated to provide a means to close enforcement actions brought by the Corps or

the U.S. Environmental Protection Agency. However, it allows for authorization of violations of up to five acres of nontidal wetlands or up to one acre of tidal wetlands. The Los Angeles District subsequently proposed to limit the use of this NWP to situations with acreage limitations intended under NWP 26 (i.e. not more than three acres and no consideration for impacts to tidal wetlands or other waters).

**Public Comment:**

A Public Notice describing the proposed regional general conditions was issued by the Los Angeles District Corps of Engineers on February 11, 1997 and sent to all interested parties (Corps mailing list), including appropriate state and Federal agencies. Comments were received from the following agencies/individuals:

U.S. Fish and Wildlife Service (FWS)
City of San Diego
Riverside County Flood Control and Water Conservation District
Metropolitan Water District of Southern California (MWD)
Dr. Ellen T. Bauder, botanist at San Diego State University
Mr. Tony Bomkamp, Glenn Lukos Associates
Ms. Marie Simovich
Mr. David Bramlet, consulting biologist
The California Building Industry Association (CBIA)
Mr. David Doolaege of Water Structures Unlimited

**Consideration of Public Comments:**

No comments were received regarding the proposed modification to NWP 32.

Many of the comenters, including the U.S. Fish and Wildlife Service and others related to compilation of an appropriate vernal pool species list. This is very important to more accurately protect true vernal pools under this proposed general condition while not overextending its use to other types of wetland areas. To this end, the Corps compiled a list from the comments received and requested peer review prior to releasing it with the public notice. Such a list includes a faunal component to address vernal pool specialists such as fairy shrimp.

The City of San Diego's comments regarding regulation of water which ponds on landfills incidental to capping could be resolved through a general permit to address their specific needs, or through a regional general permit, or through a nationwide permit. The Corps understands the need for such maintenance to prevent water infiltration. However, there is also a responsibility on the part of the landfill operator to diligently address their maintenance needs to avoid the establishment of sensitive resources with the attendant rise in concern on the part of the resource and regulatory agencies.

The City stated that such depressional features are not "natural" ecosystems and do not support the same functions and values of natural vernal pool systems. While they may not be natural in that they were not formed over hundreds to thousands of years, they do fulfill at least some functions very similar to natural vernal pools such as habitat for one or more species and ponding of water for other wildlife. The Corps agrees it is most appropriate to focus on resources that have highest function. However, since significant areas and numbers of vernal pools have been systematically destroyed through past development and agricultural practices, even small vernal pools are very important aquatic resources.

The City and the Riverside County Flood Control and Water Conservation District (District) found seeming discrepancies between the public notice and the wording provided by Zedler (1987) for List 6A and 6B.

They noted that List 6A states "several species from the 6A list, together with species from the 6B list would indicate that a site may support vernal pool habitat." Particular attention was brought to the words "several" and "may" that was not in the original document. Likewise, both of these comenters took this statement out of context and failed to mention the preceding sentence which clearly indicated that species on list 6A were vernal pool indicators. The quoted sentence fragment began with the word "if" to denote that vernal pool plants can be found in the presence of other wetland plant species, and it implied that if several vernal pool plant species were present, one could be reasonably assured that the area in question was, in fact, a vernal pool. The contention on the part of the comenters is not justified. Further, the City's statement that non-native or uncommon species should not be used as vernal pool indicators is not justified simply because they are non-native or uncommon; if they are vernal pool specialists and they are present, the first consideration that should come to mind is whether or not the area is a vernal pool.

The District also directed comments toward modifications of NWP26 which was not the subject of the public notice. However, we are aware of their concerns and are developing a regional general permit to address many of the District's concerns regarding the 500-foot limitation in NWP26.

We disagree with the Metropolitan Water District of Southern California's (MWD) statement that the proposed vernal pool special condition duplicates controls already in place for even smaller areas in the notification procedures. This statement would refer specifically to NWP26 and a couple of others, but would not necessarily apply to the great majority of NWPs. The proposed special condition will apply to all NWPs that could potentially be used to impact virtually any vernal pool. The Corps' intention is to review project impacts to vernal pools because such resources have been severely impacted through past activities. We believe an upper threshold of 0.5 acres for individual permits is suitable because although it appears to be relatively small, several vernal pools may be impacted before this threshold is reached. Similarly, requiring a notification for all projects that impact vernal pools is appropriate because of the extreme sensitivity of such resources.

We agree with MWD that the Corps must have a reasonable and useful definition and description of vernal pools that is relatively inclusive of those areas that exhibit true vernal pool characteristics, but exclusive of areas that do not represent what would be considered to be a vernal pool by persons familiar with the resource. Therefore, hydrology, basin morphology and vegetation appear to be appropriate criteria for limiting the scope of any vernal pool special condition developed by the Corps. However, basin morphology, as presented by MWD, presumes that only natural basins should meet a definition for vernal pools. The District would not be so presumptuous to exclude basins that have a more recent and/or man-made history if such features provide essentially the same functions and values as pre-historical basin features. The determining considerations should include an assessment of the ecological role a particular basin provides. Basins of relatively low value, such as might be found on abandoned construction sites or in road ruts are not the subject of the proposed vernal pool special condition, but there may be some circumstances where such origins have led to a relatively high value vernal pool.

Dr. Ellen Bauder and Ms. Marie Simovich expressed reservations about the Corps' proposed upper threshold of 0.5 acres before requiring an individual permit. It appears that this may be a misunderstanding on the part of Dr. Bauder and Ms. Simovich because all projects involving vernal pools will be reviewed, and the Corps will specifically address those projects which impact any vernal pool, which could conceivably fall below the current lower threshold of 1/3 acre in NWP26. Furthermore, the Corps would retain discretionary authority to require an individual permit for projects impacting less than 0.5 acre if the impacts would be greater than minimal.

Dr. Bauder's 1991 letter to U.S. EPA regarding the sensitive nature of vernal pools and the complexity involved in classify vernal pools due to the variables that influence each pool is well taken. The Corps must

determine appropriate parameters to establish a foundation for implementation of any special condition(s) specifically focused on vernal pools. Her letter, and Ms. Simovich's comments, noted the importance of including the pool's watershed when discussing the ecology of any pool. We agree that such considerations are critical. However, Section 404 of the Clean Water Act, as written, specifically regulates the discharge of dredged or fill material in waters of the U.S., and this restriction significantly limits any potential control the Corps may have in non-jurisdictional areas of the vernal pool watershed.

Mr. Bomkamp's letter, for Glenn Lukos Associates, reiterated concerns voiced by others that vernal pool descriptions are extremely varied, but that specialized vegetation is a distinguishing characteristic of vernal pool habitats. His recommendation to clearly denote those depressional waterbodies or other waters of the U.S. (i.e. wetlands) not covered by the proposed special condition is appropriate.

Mr. Bramlet's provision of comments regarding alkaline vernal habitats in the Perris Valley area were utilized to the extent they apply to the intended purpose of the proposed special condition.

The California Building Industry Association's (CBIA) conclusion that the proposed vernal pool special condition is in conflict with the intent of the Nationwide Permit Program is in error. We agree that NWPs are appropriate for projects that have minimal adverse environmental impacts. We also agree that Corps headquarters has determined that the NWPs, individually and as a group, typically would result in only minor environmental impacts. However, regulations at 33 CFR Part 330.4(e)(1) state "A division engineer may assert discretionary authority by modifying, suspending, or revoking NWP authorizations for a specific geographic area, class of activity, or class of waters within his division, including on a statewide basis, whenever he determines sufficient concerns for the environment under the section 404(b)(1) Guidelines or any other factor of the public interest so requires, or if he otherwise determines that the NWP would result in more than minimal adverse environmental effects either individually or cumulatively."

The CBIA also questioned the basis upon which the Corps determined that such a special condition is needed, and stated that such information should be made available for public review and comment. Vernal pools typically occur on relatively flat surfaces, such as mesas, where climatic, topographic, edaphic and hydrologic features contribute to each pool's unique ecological makeup. Such areas are also very attractive for agricultural interests as well as commercial and residential developers. Agricultural and other development practices have used these areas extensively and have severely impacted vernal pool resources. This information is common knowledge and may be reviewed in any of a number of published sources.

The CBIA's comments regarding the seeming discrepancies found in the plant lists provided with the public notice are noted and will be clarified. Designation of which species are listed as threatened or endangered is moot for the purposes of determining whether a pool meets appropriate criteria.

Mr. Doolaege's comments regarding use of alternative non-fill materials or structures is noted but does not have direct applicability to the proposed modification or proposed vernal pool special condition.

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Based on a review of these comments, scientific literature pertaining to vernal pools, consultation with regional experts of vernal pools, and experience and judgement concerning potential adverse effects to vernal pools associated with the nationwide permits, the Corps has determined that these regional general conditions are necessary to ensure only minimal individual and cumulative impacts occur (1) to vernal pools associated with the nationwide permits and (2) with completed enforcement actions. In accordance with the National Environmental Policy Act, an Environmental Assessment (EA) was prepared for these Regional General Conditions. The EA may be reviewed at, or requested from the Los Angeles District of the Corps of Engineers.

For additional information please contact the senior project managers listed at the top of this notice. This public notice is issued by the Division Engineer, South Pacific Division, Corps of Engineers.

# INDICATOR SPECIES FOR VERNAL POOLS

U.S. Army Corps of Engineer, Los Angeles District, Regulatory Branch
November 1997

## FLORAL LIST

Apiaceae
- *Eryngium aristulatum* var. *parishii*
- *Eryngium armatum*
- *Eryngium vaseyi*
- *Eryngium* sp. nova (Pendleton)
- *Eryngium* sp. nova (San Quintin)

Asteraceae
- *Blennospermum nanum*
- *Hemizonia perennis*
- *Lasthenia glabrata* ssp. *coulteri*
- *Psilocarphus brevissimus*
- *Psilocarphus oregonus*

Boraginaceae
- *Plagiobothrys acanthocarpus*
- *Plagiobothrys bracteatus*
- *Plagiobothrys stipitatus*
- *Plagiobothrys undulatus*
- *Plagiobothrys leptocladus*

Brassicaceae
- *Sibara virginica*

Callitrichaceae
- *Callitriche heterophylla*
- *Callitriche longipedunculata*
- *Callitriche verna*

Campanulaceae
- *Downingia bella*
- *Downingia cuspidata*
- *Downingia concolor* var. *brevior*

Crassulaceae
- *Crassula aquatica*

Elatinaceae
- *Bergia texana*
- *Elatine californica*
- *Elatine chilensis*

Hydrophyllaceae
- *Nama stenocarpum*

Isoetaceae
- *Isoetes howellii*
- *Isoetes orcuttii*

Lamiaceae
- *Pogogyne abramsii*
- *Pogogyne nudiuscula*
- *Pogogyne douglasii*
- *Pogogyne serpylloides*

Juncaginaceae
- *Lilaea scilloides*

Limnanthaceae
- *Limnanthes gracilis* ssp. *parishii*

Malvaceae
- *Malvella leprosa*

Marsileaceae
- *Marsilea vestita*
- *Pilularia americana*

Onagraceae
- *Epilobium pygmaeum*

Plantaginaceae
- *Plantago bigelovii*

Poaceae

*Alopecurus saccatus*
*Deschampsia danthonioides*
*Orcuttia californica*
*Phalaris caroliniana*
*Phalaris lemmonii*
*Phalaris paradoxa*
*Hordeum intercedens*

Polemoniaceae

*Navarretia fossalis*
*Navarretia prostrata*

Primulaceae

*Centunculus minimus*

Ranunculaceae

*Myosurus minimus*
*Myosurus minimus* var. *apus*
*Myosurus minimus* var. *filiformis*

Scrophulariaceae

*Mimulus latidens*

Solanaceae

*Petunia parviflora*

Verbenaceae

*Verbena bracteata*

FAUNAL LIST

Anostraca

*Branchinecta sandiegonensis*
*Branchinecta lindahli*
*Branchinecta lynchii*
*Linderiella* sp.
*Streptocephalus woottoni*

Cladocera

*Alona* cf. *diaphana*
*Ceriodaphnia dubia*
*Daphnia magna*
*Daphnia rosea*
*Macrothrix hirsuticornis*
*Moina micrura*
*Scapholebris* cf. *rammneri*
*Simocephalus* sp.

Copepoda

*Acanthocyclops robustus*
*Acanthocyclops vernalis*

Ostracoda

*Bradleycypris* sp.
*Cypria pustulosa*
*Cypriconcha* sp.
*Cypridopsis vidua*
*Cypris pubera*
*Cypris virens*
*Eucypris* sp.
*Herpetocypris* sp.
*Heterocypris* sp.
*Lymnocythere* sp.
*Potamocypris* sp.
*Prionocypris* sp.
*Pseudoilcypris* sp.

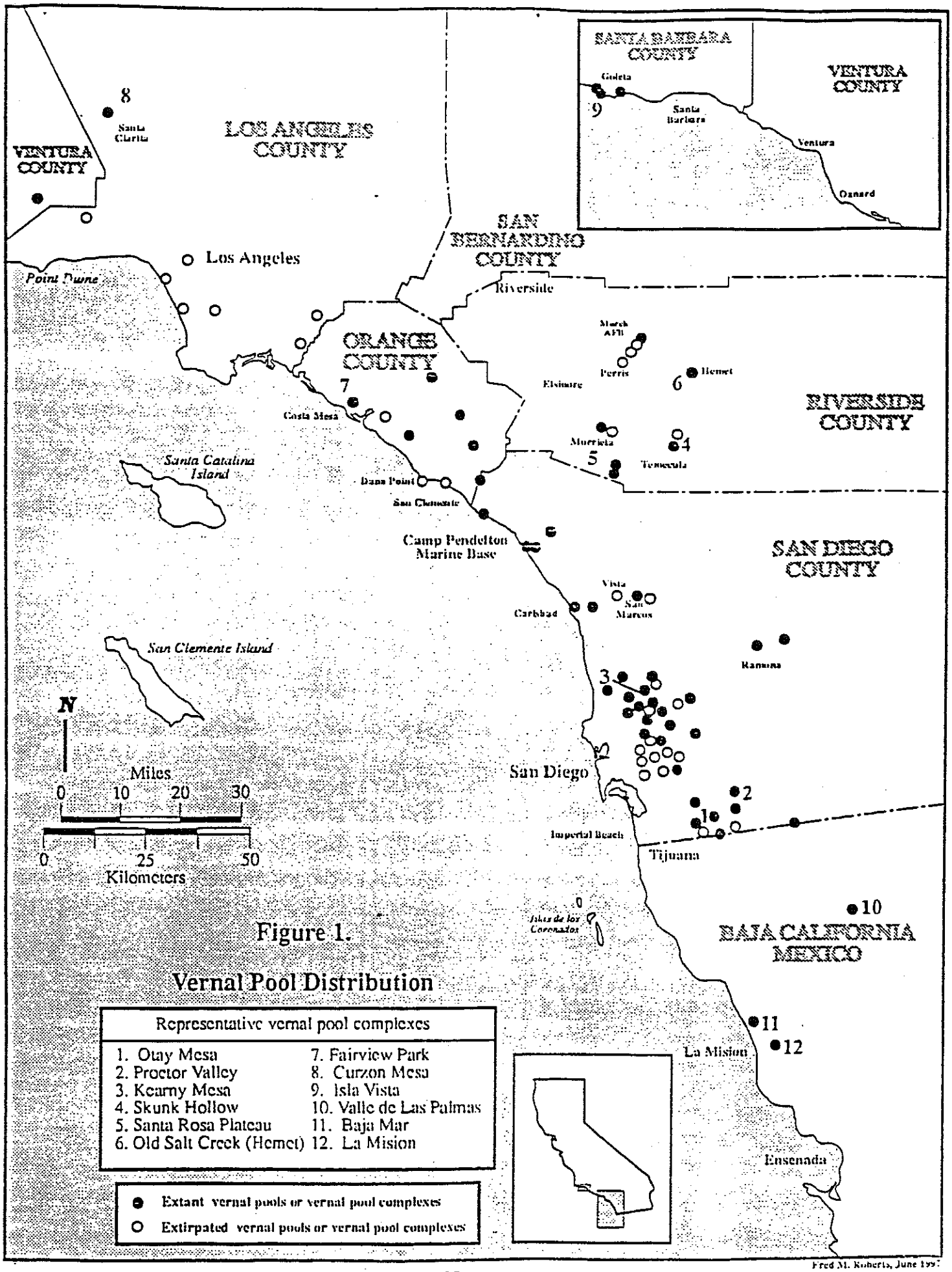



Figure 1.

Vernal Pool Distribution

# CORPS DISTRICTS IN CALIFORNIA

# ATTACHMENT D

# PRELIMINARY JD FORM

**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**
**U.S. Army Corps of Engineers**

Otay Truck Route Phase IV
San Diego, CA (community of Otay Mesa)

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** November 3, 2014

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978-2004
Contact: Lisa Coburn-Boyd, Environmental Compliance Specialist
Phone: (619) 619-670-2219

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Los Angeles District Regulatory Division, Los Angeles Section, South Coast Branch, Carlsbad Field Office

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**
Otay Conveyance and Disinfection System Project**.** Please refer to Summary and Description of Project located in the Jurisdictional Delineation Report (JDR) (AECOM 2013).

**(Use the attached table to document multiple waterbodies at different sites)**
State: CA County/parish/borough: San Diego City: San Diego (near community of Otay Mesa)
Center coordinates of site (lat/long in degree decimal format): Lat: 32.570999 Long: -116.919094
UTM: 11N 507592.10 m E 3603734.47m N
Name of nearest waterbody: Otay River
Identify (estimate) amount of waters in the review area: 0.082
Non-wetland waters: 0.051
Cowardin Class: Riverine
Stream Flow: Ephemeral
Wetlands: 0.032 acre
Cowardin Class: Palustrine
Name of any waterbodies on the site that have been identified as Section 10 waters: N/A
Tidal: 0.0
Non-Tidal:

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): October 22, 2014; September 6, 2013 through September 11, 2013

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked
and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: See Attachment A (Detailed Figures) of the Jurisdictional Delineation Report

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant. Please see Volume II of the Wetland Delineation Report (2008 Supplement Wetland Determination Data Forms — Arid West Region [Version 2.0]).
- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☐ U.S. Geological Survey Hydrologic Atlas: .
- ☒ USGS NHD data.
- ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 7.5' U.S. Geologic Service (USGS) Otay Mesa (1975) topographic quadrangle

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey.

☒ National wetlands inventory map(s). Cite name: NWI Website.

☐ State/Local wetland inventory map(s): .

☒ FEMA/FIRM maps: Otay Truck Route is entirely OUTSIDE the floodway, 100-year & 500-year floodzones according to the SD County DFIRM mapping published by FEMA.

☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): 2011 Aerial Maps of the survey area (Digital Globe 2011)

☒ Other (Name & Date): Please see Attachment A (Detailed Figures) of the Jurisdictional Delineation Report (Site Photos of the Jurisdictional Delineation [The Site Photos were taken between September 6, 2013 through September 11, 2013 and October 22, 2014.

☐ Previous determination(s). File no. and date of response letter: .

☒ Other information (please specify): Please review the Jurisdictional Delineation Report for this project.

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

| | |
|---|---|
| Signature and date of<br>Regulatory Project Manager<br>(REQUIRED) | Signature and date of<br>person requesting preliminary JD<br>(REQUIRED, unless obtaining<br>the signature is impracticable) |

# *PRELIMINARY JURISDICTIONAL DETERMINATION FORM*

**This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:**

Appendix A – Sites

District Office: **Carlsbad**, **Los Angeles District** File/ORM **#** PJD Date: **November 3, 2014**
State: **CA** City/County: **Otay Mesa/San Diego**

Person Requesting PJD: Lisa Coburn-Boyd, Environmental Compliance Specialist, Otay Water District

| Waters Name | Latitude | Longitude | Cowardin Class | Estimated Amount of Aquatic Resource in Review Area (ac) | Class of Aquatic Resource |
|---|---|---|---|---|---|
| 1 (southern willow scrub) | 32.592682 | -116.926829 | Palustrine | 0.020 | Non-Section 10 Wetland |
| 2 (Nonvegetated Channel) | 32.592672 | -116.926639 | Riverine | 0.002 (19 Linear Feet) | Non-Section 10 Non-Wetland |
| 3 (southern willow scrub) | 32.592663 | -116.926579 | Palustrine | 0.012 | Non-Section 10 Wetland |
| 4 (Culvert [other waters]) | 32.590626 | -116.92707 | | 0.003 (32 Linear Feet) | Non-Section 10 Non-Wetland |
| 5 (Culvert [other waters]) | 32.586641 | -116.926396 | Riverine | 0.001 (25 Linear Feet) | Non-Section 10 Non-Wetland |
| 6 (Culvert [other waters]) | 32.574975 | -116.918966 | Riverine | 0.005 (40 Linear Feet) | Non-Section 10 Non-Wetland |
| 7 (drainage feature [other waters]) | 32.570263 | -116.914207 | Riverine | 0.039 (181 Linear Feet) | Non-Section 10 Non-Wetland |
| **TOTAL** | | | | **0.082acre (297Linear Feet)** | |

Note: All acreages are rounded to the nearest thousandth which may account for minor rounding error.

Appendix C

# Cultural Resources Assessment for Otay Mesa Conveyance and Disinfection System Project, Atkins, September 2013

CONFIDENTIAL

# Otay Mesa Conveyance and Disinfection System Project Cultural Resources Assessment

## Final Report

April 6, 2015

Prepared for:
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978
and
U.S. Department of State
2201 C Street NW
Washington, DC 20520

Prepared by:
ATKINS
3570 Carmel Mountain Road, Suite 300
San Diego, California 92130

Authors: Sandra Pentney, M.A., RPA, Project Manager/Archaeologist
Jennifer M. Sanka, M.A., RPA, Senior Archaeologist
William R. Gillean, B.S., Field Technician II
Michael M. DeGiovine, B.A., Field Technician II
Marlie Long, Field Assistant
Fieldwork Conducted By: Jennifer M. Sanka, Sandra Pentney, Marlie Long, William R. Gillean, and Michael M. DeGiovine
Fieldwork Conducted: September 26 and 27, 2013, April 15, 2014, October 16, 2014, and January 15, 2015

USGS Otay Mesa, CA. 7.5', Sections 19, 30, 31, and 32 of Township 18 South, Range 1 East;
Section 24 of Township 18 South, Range 1 West; and Section 6 of Township 19 South, Range 1 East
129.27-Acre Area of Potential Effects

Resources: CA-SDi-07215; CA-SDi-07218; CA-SDi-08654; CA-SDi-10297; CA-SDi-10627;
CA-SDi-10668; CA-SDi-11793; CA-SDi-12877; and Isolate 02/Isolate 03

# Contents


**1.0 Management Summary ..... 1**

**2.0 Project Description ..... 3**

2.1 Project Location ..... 3

2.2 Project Description ..... 3

2.3 Additional Project Infrastructure ..... 4

2.4 Construction Methods ..... 5

**3.0 Regulatory Framework ..... 9**

3.1 Federal Evaluations ..... 9

3.2 State Evaluations ..... 12

3.3 Local Evaluations ..... 13

**4.0 Methods of Investigation ..... 17**

4.1 Area of Potential Effects ..... 17

4.2 Record Searches ..... 17

4.3 Intensive Pedestrian Survey ..... 18

**5.0 Environmental Setting ..... 19**

**6.0 Cultural Setting ..... 20**

6.1 Prehistoric Background ..... 20

6.2 Ethnohistoric Background ..... 21

6.3 Historic Era Background ..... 23

**7.0 Results ..... 25**

7.1 Cultural Resources Records Search Results ..... 25

7.2 Intensive Pedestrian Survey Results ..... 40

**8.0 Recommendations ..... 43**

**9.0 Certification ..... 48**

**10.0 References ..... 49**


## Appendices


Appendix A: Detailed Area of Potential Effects Maps (Confidential)

Appendix B: Photographs

Appendix C: Native American Heritage Commission Sacred Lands File Search and Information Scoping

Appendix D: Department of Parks and Recreation (DPR) 523 Forms

Appendix E: Professional Qualifications

Appendix F: Removed Alternative

## Figures

Figure 1 Proposed Alternatives ..... 7
Figure 2 Area of Potential Effect For All Alternatives ..... 8

## Tables

Table 1 Record Search Results of Known Cultural Resources within the APE ..... 26
Table 2 Known Cultural Resources Located within One Mile of the APE ..... 29
Table 3 Updated Site Conditions for Known Cultural Resources within the APE ..... 41
Table 4 Potential Project Impacts and Recommendations by Resource ..... 45

# 1.0 Management Summary

This report documents a cultural resources assessment (CRA) for the Otay Mesa Conveyance and Disinfection System Project. The project proposes to construct and operate a water pipeline and a meter station to enable the Otay Water District (District) to import and convey desalinated potable water produced in Rosarito Beach, Baja California, Mexico from the U.S./Mexico border north to the District's existing Roll Reservoir. Additionally, a booster pump station and disinfection facility may be constructed if needed. The proposed pipeline would measure approximately four miles in length and measure 48-to-54-inches in diameter. The project area is located immediately north of the U.S./Mexico border and within the Community of Otay Mesa, San Diego County, California. Atkins has completed this CRA on behalf of the District.

The project is subject to environmental review pursuant to the California Environmental Quality Act (CEQA) and consistent with the National Environmental Policy Act (NEPA). The CEQA lead agency is the District and the NEPA lead agency is the U.S. Department of State (DOS). The approval of the proposed pipeline project within the U.S./Mexico border region constitutes a federal action and will include obtaining a Presidential Permit issued by the DOS. As such, this CRA has been completed in accordance with CEQA and consistent with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The purpose of this assessment is to identify the effect of the proposed project on cultural resources, including historical and archaeological resources pursuant to CEQA and Historic Properties as outlined in Section 106 of the NHPA. The proposed study area for this assessment has been defined as an Area of Potential Effects (APE) that considers Alternative Alignments 1, 2 and 3, as well as locations for a meter station, potential pump station, disinfection facility and outfall structure associated with the proposed project. Specifically, the APE encompasses the footprint of these components along with a 150 to 500-foot-wide corridor. The draft APE measures approximately 129.27 acres. The APE has been assessed through existing literature searches and records reviews, as well as a pedestrian survey.

A cultural resources records search was completed for the APE and all lands situated within one mile of the APE by South Coastal Information Center (SCIC) on July 26, 2013. The results of the records search indicates that 53 studies have addressed portions of the APE, rendering approximately 95 percent of the APE previously surveyed for cultural resources. As a result of these studies, eight previously recorded resources are located within or partially within the APE:

- CA-SDi-07215 [Locus A]
- CA-SDi-07218
- CA-SDi-08654
- CA-SDi-10297
- CA-SDi-10627
- CA-SDi-10668
- CA-SDi-11793
- CA-SDi-12877

The previously recorded resources have been subject to a variety of fieldwork, including survey, testing and data recovery efforts between the 1970s and present day. Six of the resources have been tested and found not to be significant (CA-SDi-07215 [Locus A], CA-SDi-10297, CA-SDi-10668, CA-SDi-10627, CA-SDi-11793 and CA-SDi-12877) and one resource has not been formally tested or evaluated (CA-SDi-10627). The remaining resources have been subject to monitoring or testing and data recovery with a variety of results. Portions of several resources have been recommended as eligible for the National Register of Historic Places (NRHP) including CA-SDi-08654, CA-SDi-10297 (prehistoric component only), and CA-SDi-10668, or eligible for the California Register of Historical Resources (CRHR) and/or locally important as defined by San Diego County (CA-SDi-07215 [Locus B only], outside of APE). These resources are discussed

in detail in Table 1 and are shown in relation to the APE boundaries in Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE.

Atkins contacted the Native American Heritage Commission (NAHC) requesting a Sacred Lands File (SLF) database search on June 28, 2013. The NAHC response indicated that no SLF-listed Native American resources were known within the APE. However, the response did note that there are Native American sacred sites in adjacent U.S. Geological Survey (USGS) sections. Further, the SLF is not exhaustive and the NAHC provided a list of Native American contacts that may have knowledge about the APE, including any sacred sites or resources not listed in the SLF. Information scoping letters were sent to each of the contacts listed by the NAHC in July 2013 and again in July 2014. One response was received that indicated the APE and vicinity has a high sensitivity for Native American resources. The initial pedestrian survey was conducted for the APE on September 26 and 27, 2013, with additional surveys conducted on April 17, 2014, October 16, 2014 and January 15, 2015 to cover additional areas of potential impact. During the pedestrian survey, the previously recorded resource locations were visited. Photographs and notes were taken to document existing conditions. Due to the presence of pavement and concrete within the developed portions of the APE, including Alta Road and Paseo de la Fuente, soil disturbances resulting from development, and negligible surface visibility in areas containing dense vegetation, the majority of the sites were not observed at the surface. Existing conditions at each of the sites are summarized in Table 3. Photographs documenting the site conditions are also noted in Table 3 by site number. Department of Parks and Recreation (DPR) 523 Update Forms were prepared for the previously recorded resources and are included in Appendix D.

Two prehistoric isolated finds in the APE were encountered and recorded during the survey of the current project area: Isolate 02 and Isolate 03. Isolate 02 is a small piece of metavolcanic shatter and Isolate 03 is a metavolcanic core with approximately 10 flake scars. Isolates 02 and 03 were recorded as an isolated occurrence (Isolate 02/Isolate 03) and a DPR 523 Form was prepared (Appendix D).

Based on the results of the records searches and the pedestrian survey, as well as the parameters of the proposed project, there is the potential for a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 and adverse effects to Historic Properties pursuant to Section 106 of the NHPA, as amended. These impacts could result from implementation of Alternatives 1, 2, or 3. For this reason, additional testing and evaluation is recommended for specific sites to determine the potential for the proposed project to result in significant impacts to historical resources and/or adverse effects to Historic Properties. Due to the high potential for buried cultural deposits to occur in the project area, an archaeological and Native American monitoring plan is recommended for the entire project length in any areas containing native soils.

# 2.0 Project Description

This report documents a CRA for the Otay Mesa Conveyance and Disinfection System Project. This report was completed in accordance with CEQA and Section 106 of the NHPA, as amended.

The CRA presents the results of the cultural resources investigation, and documents Atkins' effort to identify cultural resources, including historical resources and Historic Properties, which may be affected by the proposed project. This report follows the California Office of Historic Preservation (OHP) procedures for cultural resource surveys and the OHP Archaeological Resource Management Report format.

## 2.1 Project Location

The proposed project is generally located in the southwestern portion of San Diego County, east of Interstate 5, Interstate 805 and State Route 125 (Figure 1). Specifically, it can be found on the Otay Mesa, California, USGS 7.5-minute topographic quadrangle, in Sections 19, 30, 31, and 32 of Township 18 South, Range 1 East; Section 24 of Township 18 South, Range 1 West; and Section 6 of Township 19 South, Range 1 East. The project is located within the Community of Otay Mesa, along a portion of Alta Road and Paseo de la Fuente.

## 2.2 Project Description

The proposed Otay Mesa Conveyance and Disinfection System project (proposed project) is located within the community of Otay Mesa in southern San Diego County. The proposed project would entail construction and operation of an approximately four-mile long (depending on the selected alignment alternative) potable water pipeline with an anticipated diameter of 48 or 54 inches and a metering station. Additionally, other infrastructure improvements including a disinfection facility and improvements to an existing culvert structure may be constructed. A pump station would be constructed if necessary. The proposed project would enable the Otay Water District (District) to import and convey desalinated seawater produced in Rosarito Beach, Baja California, Mexico from a connection point at the U.S./Mexico border north to the District's existing Roll Reservoir (a covered potable water storage facility).

Three conveyance pipeline alignment alternatives have been identified, which are described below from south to north, beginning at the U.S./Mexico border and ending at Roll Reservoir. All three alignment alternatives would begin at the U.S./Mexico border, approximately 300 linear feet (LF) east of the existing SDG&E power transmission lines and easement (Figure 1). All three alignment alternatives would share a common segment, comprising roughly the northern half of the pipeline route, starting at approximately 550 feet east of where the alignments would cross an existing SDG&E 24-inch gas pipeline, continuing northwesterly to Roll Reservoir.

### 2.2.1 Proposed Alignment Alternative 1

Alignment Alternative 1 proposes a route for the potable water conveyance pipeline with a length of approximately 21,810 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border connection point approximately 300 LF east of the existing SDG&E power transmission lines and easement and continue northwesterly for approximately 570 LF before turning approximately 90 degrees southwesterly for approximately 610 LF along an unpaved dirt road. It would then turn northwest again

at approximately 90 degrees and follow a dirt road for approximately 2,890 LF around a curve and a sharp right turn, slightly east of the connection with the future alignment of Lone Star Road. From that connection, the proposed pipeline would continue along and within the right-of-way of future Lone Star Road for approximately 4,210 LF until it reaches the existing, paved portion of Paseo de la Fuente (southerly cul-de-sac). The proposed pipeline would then continue along and within the paved Paseo de la Fuente for approximately 2,870 LF until it reaches the intersection with Alta Road. From the intersection of Alta Road and Paseo de la Fuente, the proposed pipeline would continue north for approximately 8,660 LF in the paved roadway to an existing dirt roadway that provides access to Roll Reservoir. The pipeline will continue in the dirt roadway for approximately 2,000 LF and terminate on the eastern side of Roll Reservoir (Figure 1).

### 2.2.2 Proposed Alignment Alternative 2

Alignment Alternative 2 proposes a route for the potable water transmission pipeline with a length of approximately 21,400 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 1,180 LF. At this point the proposed conveyance pipeline would cross beneath the existing SDG&E power transmission lines and easement and continue due west for approximately 380 LF. The proposed conveyance pipeline would then turn to the northwest for approximately 1,270 LF, before turning due west for approximately 840 LF to the point where all three proposed alignment alternatives would join, which is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alignment Alternative 1 to its termination point at Roll Reservoir (Figure 1).

### 2.2.3 Proposed Alignment Alternative 3

Alignment Alternative 3 proposes a route for the potable water transmission pipeline with a length of approximately 22,580 LF. The proposed conveyance pipeline would begin at the U.S./Mexico border pipeline connection point and would continue northwesterly parallel to the eastern edge of the existing SDG&E power transmission lines and easement for approximately 2,450 LF. It would then turn due west, crossing beneath the existing SDG&E power transmission lines and easement, and continue for approximately 1,220 LF, until it is approximately 550 LF east of the existing SDG&E 24-inch gas pipeline. From this point, the alignment is the same as described above for Alignment Alternative 1 to its termination point at Roll Reservoir (Figure 1).

## 2.3 Additional Project Infrastructure

### 2.3.1 Metering Station

A metering station is proposed near the U.S./Mexico border, slightly north of the connection point. The metering station would be located on the east side of the conveyance pipeline. The potential metering station location is identified on Figure 1.

### 2.3.2 Disinfection Facility

A disinfection facility is proposed at one of four potential locations along the conveyance pipeline alignment alternatives. One potential location is at the U.S./Mexico border, adjacent to the metering

station. A second potential location is adjacent to the proposed conveyance pipeline (along the common segment) in an existing disturbed area just east of Alta Road near the intersection of Alta Road and Donovan State Prison Road. Two additional potential locations are on the southern or western perimeter of Roll Reservoir. The preferred location will be chosen during preliminary design. All potential disinfection facility locations are identified on Figure 1.

### 2.3.3 Outfall Structure for Non-Spec Potable Water

Water quality would be monitored at the desalination plant, in the conveyance pipeline between the plant and the U.S./Mexico border, and in the District's pipeline between the border and Roll Reservoir. In the case that delivered water falls outside the specified levels of the Water Purchase Agreement (non-spec water), the District would discharge this water into O'Neal Canyon at an outfall structure located south of Roll Reservoir and west of Alta Road. This outfall structure would consist of pipeline tee fittings and a valve configuration that allows both insulation and discharge rate control of the non-spec water to be expelled from delivery. An energy dissipater, likely consisting of concrete obstructions and directive shapes, would be constructed on the existing concrete culvert's footprint. The proposed outfall structure location is identified on Figure 1.

### 2.3.4 Potential Pump Station

It is uncertain at this time if a pump station would be required to convey water to Roll Reservoir. If the water is delivered to the U.S./Mexico border with a hydraulic grade line (HGL) of approximately 800 feet or more (for sufficient pressure), then a pump station would not be required. If the required pressure is not provided (terms yet to be agreed upon in a Water Purchase Agreement), then a pump station would likely be required. If a pump station is necessary, a potential location has been identified near the U.S./Mexico border (within the same footprint as the previously described metering station, north of the connection point). The potential pump station location is identified on Figure 1.

## 2.4 Construction Methods

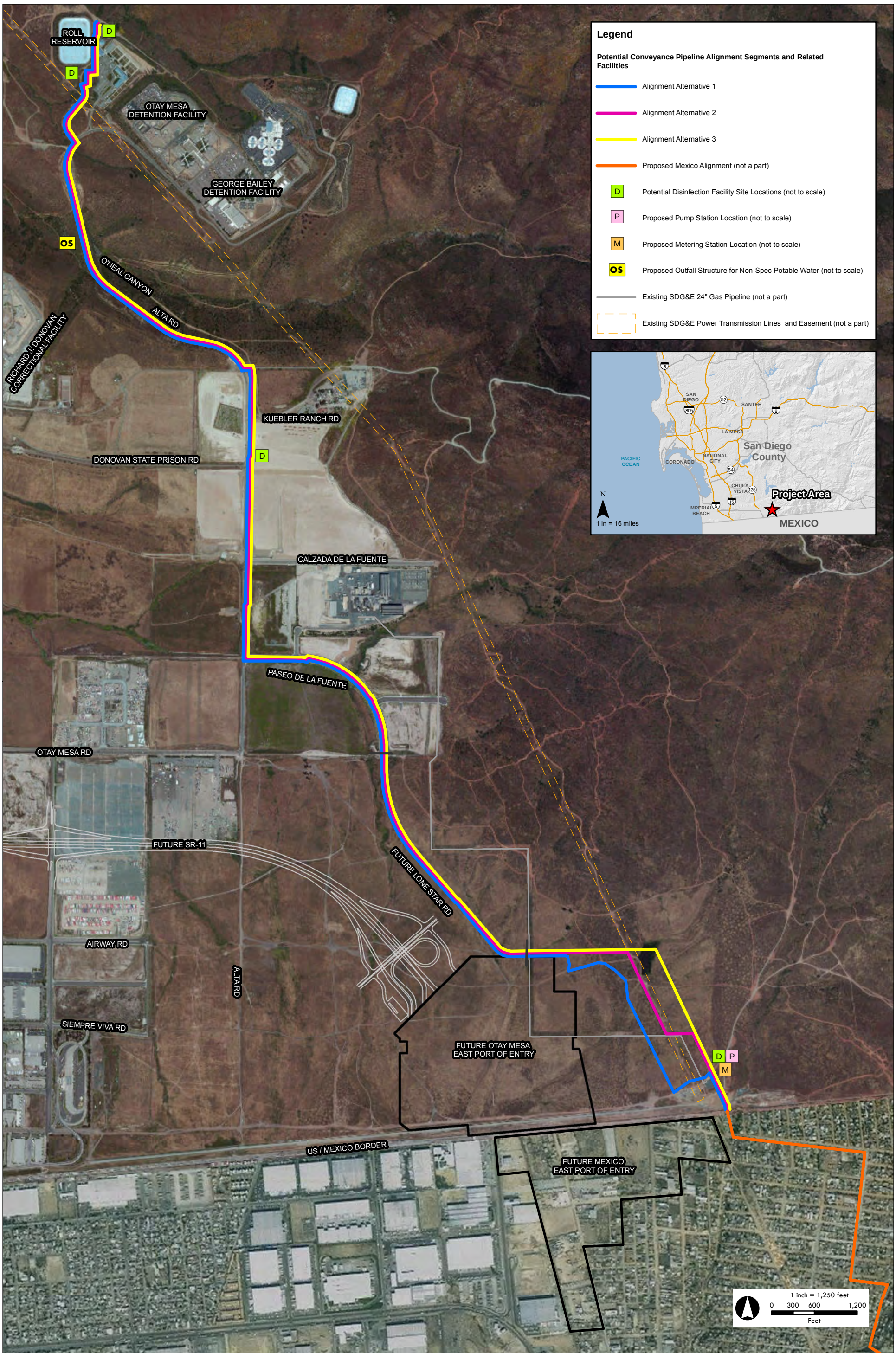
### 2.4.1 Conveyance Pipeline Alignment Alternatives

The proposed conveyance pipeline would be constructed using open-trench methods. Trenches would be approximately 10 feet deep and approximately 10 feet wide when the installation is within existing paved streets (trenches are shored). When installation is outside of paved roadways, the trenches would be approximately 10 feet deep and approximately 30 feet wide (trenches are sloped). An excavator would be used to dig the trenches and load materials into a truck. It is assumed that the average trenching distance would be approximately 120 feet during an eight-hour work day. Based on an average trenching distance of approximately 120 feet per day, the construction period for the proposed conveyance pipeline would be approximately 9-10 months. To be conservative, it is assumed that the proposed project would be constructed prior to other approved development in the area (specifically the Otay Crossings Commerce Park project), and would be responsible for improving the common portion of Lone Star Road to its ultimate grade prior to installation of the conveyance pipeline. After conveyance pipeline installation, the future roadway surface would be covered with gravel and the sides revegetated, until the other approved development projects are built. Including the impacts of the proposed conveyance pipeline and the earthwork improvements for the extension of Lone Star Road, construction of Alignment Alternative 1 would result in approximately 40 acres of temporary impacts and approximately 10 acres of

permanent impacts, for a total of approximately 50 acres. Construction methods for Alternative Alignment 2 and Alternative Alignment 3 would be the same as Alternative Alignment 1. While Alignment Alternative 2 and Alignment Alternative 3 have slight physical alignment variations, these alignment alternatives would also result in approximately 40 acres of temporary impacts and 10 acres of permanent impacts, for a total of approximately 50 acres of disturbance for the construction of the conveyance pipeline.

### 2.4.2 Additional Project Infrastructure

Construction methods for the metering station, disinfection facility, outfall structure, and pump station would be similar for all alternative alignments. Construction activities, including grading and ingress/egress into O'Neal Canyon for the outfall structure, would result in approximately 3 acres of temporary impacts for the additional project infrastructure. The permanent physical structures, associated parking, and landscaping would result in approximately one acre of permanent impacts.




ATKINS

FIGURE 1

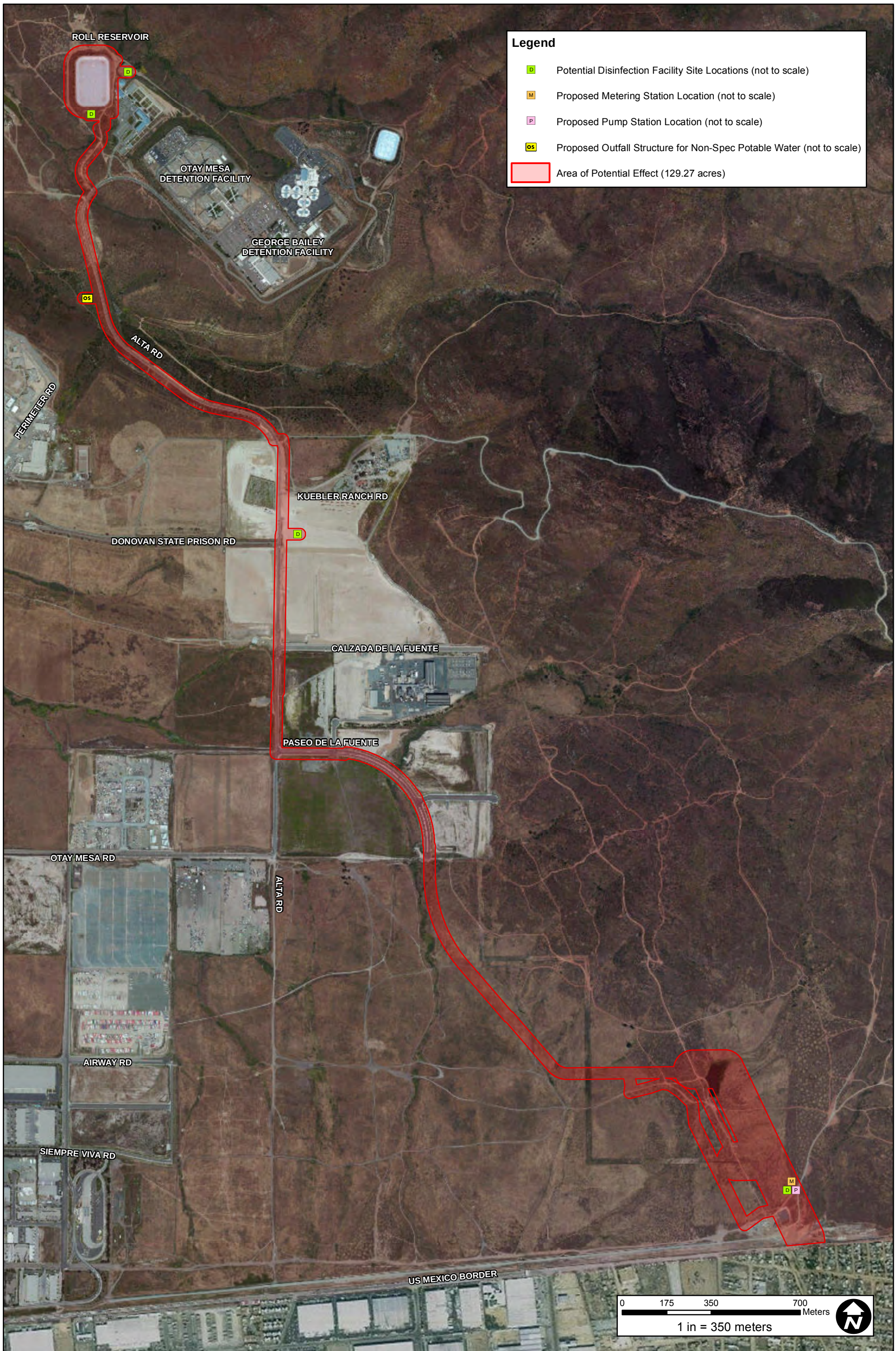
**Proposed Alternatives**

Source: Atkins, 2014; San Diego County GIS, 2012; ESRI, 2014

**100032058**

Otay Mesa Conveyance and Disinfection System Project

12/29/2014 SILV6331 H:\Clients\AECOM\100032508 Otay Mesa Conveyance ENV EIR\GIS\mxd\Figure 1_Proposed Alternatives_121114.mxd




ATKINS

FIGURE 2

**Area of Potential Effect For All Alternatives**

Source: Atkins, 2014; ESRI, 2014

**100032058**

Otay Mesa Conveyance and Disinfection System Project

2/5/2015 SILV6331 H:\Clients\AECOM\100032508 Otay Mesa Conveyance ENV EIR\GIS\mxd\Figure2_Area of Potential Effect For All Alternatives.mxd

# 3.0 Regulatory Framework

Government agencies, including federal, state, and local agencies, have developed laws and regulations designed to protect significant cultural resources that may be affected by projects regulated, funded, or undertaken by an agency. The proposed project will require environmental review in compliance with CEQA and consistent with NEPA. The CEQA lead agency is the District and the NEPA lead agency is the DOS. The approval of the proposed pipeline project within the U.S./Mexico border region constitutes a federal action and will include obtaining a Presidential Permit issued by the DOS. Consistent with Section 106 of the NHPA, the DOS will consider the effects of the proposed project on Historic Properties and seek concurrence from the appropriate State Historic Preservation Office. The Department may also seek comment from the Advisory Council on Historic Preservation (ACHP), an independent federal agency established under the NHPA (DOS 2013). Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Properties of local significance that have been designated under a local preservation ordinance or that have been identified in an inventory may be eligible for listing in the CRHR, and are generally presumed to be historical resources for purposes of CEQA. The County of San Diego (County) has established its own criteria for determining significance, which is modeled on the CRHR at the local level and also includes consideration for the County's Resource Protection Ordinance (RPO).

The following criteria were used to evaluate the significance of potential effects to cultural resources for the proposed project. For the purposes of Section 106 of the NHPA, an effect would be considered adverse if the proposed action affects the qualities that render a resource eligible for listing in the NRHP. Under CEQA, impacts would be considered significant if the proposed project affects the qualities that render a resource eligible for listing in the NRHP, CRHR, San Diego County Local Register, or if the proposed project would affect the characteristics that qualify a resource as a unique archaeological resource or RPO significant. The NRHP, CRHR, and San Diego County Local Register are listings of resources found to be significant as determined by the evaluation processes outlined herein.

## 3.1 Federal Evaluations

Federal agencies are required to consider the effects of their actions on Historic Properties and afford the ACHP a reasonable opportunity to comment on such undertakings under Section 106 of the NHPA. Federal agencies are responsible for initiating the NHPA Section 106 review and completing the steps in the process that are outlined in the regulations. They must determine if Section 106 of the NHPA applies to a given project and, if so, initiate review in consultation with the SHPO and Indian tribes who may ascribe religious and cultural significance to historic properties that may be affected. Federal agencies are also responsible for involving the public and other interested parties. Furthermore, the NHPA Section 106 requires that any federal or federally assisted undertaking, or any undertaking requiring federal licensing or permitting, consider the effect of the action on Historic Properties, defined as cultural resources listed in or eligible for the NRHP. Under the Code of Federal Regulations (CFR), 36 CFR Part 800.8, federal agencies are specifically encouraged to coordinate compliance with NHPA Section 106 and the NEPA process. The implementing regulations "Protection of Historic Properties" are found in 36 CFR Part 800. Resource eligibility for listing on the NRHP is detailed in 36 CFR Part 63 and the criteria for resource evaluation are found in 36 CFR Part 60.4 [a-d].

The NHPA established the NRHP as the official federal list for cultural resources that are considered important for their historical significance. To be determined eligible for listing in the NRHP, properties

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The NHPA established the NRHP as the official federal list for cultural resources that are considered important for their historical significance. To be determined eligible for listing in the NRHP, properties

must meet specific criteria for historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NRHP are significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. In addition, a resource must meet one or all of these eligibility criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of our history.

B. Is associated with the lives of persons significant in our past.

C. Embodies the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction.

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

Criterion D is usually reserved for archaeological resources. Eligible properties must meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

### 3.1.1 Criteria Considerations

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, buildings that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years are generally not considered eligible for the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance.

B. A building or structure removed from its original location which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event.

C. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life.

D. A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance.

G. A property achieving significance within the past 50 years if it is of exceptional importance.

### 3.1.2 Thresholds of Significance

In consultation with the SHPO/THPO and other entities that attach religious and cultural significance to identified Historic Properties, public agencies are required to apply the criteria of adverse effect on Historic Properties within the APE. Agencies shall consider the views of consulting parties and the public when considering adverse effects.

### 3.1.3 Federal Criteria of Adverse Effects

Under federal regulations, 36 CFR Part 800.5, an adverse effect is found when an undertaking alters, directly or indirectly, any of the characteristics of a Historic Property that qualifies the property for inclusion in the NRHP in a manner that diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration will be given to all qualifying characteristics of a Historic Property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for listing in the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance, or be cumulative.

According to 36 CFR Part 800.5, adverse effects on Historic Properties include, but are not limited to, those listed below:

- Physical destruction of or damage to all or part of the property.
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the US Secretary of the Interior's Standards for the Treatment of Historic Properties per 36 CFR Part 68 and applicable guidelines.
- Removal of the property from its historic location.
- Change of the character of the property's use or physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian Tribe or Native Hawaiian Organization.
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long term preservation of the property's historic significance.

**If Adverse Effects Are Found**

If adverse effects are found, public agency consultation is required as stipulated at 36 CFR Part 800.6. Consultation with the SHPO/THPO and other consulting parties is necessary to develop alternatives to the undertaking that could avoid, minimize, or mitigate adverse effects to resources. According to 36 CFR Part 800.14(d), if adverse effects cannot be avoided then standard treatments established by the ACHP may be used as a basis for Memorandum of Agreement (MOA).

According to 36 CFR Part 800.11(e), the filing of an approved MOA, and appropriate documentation, concludes the Section 106 process. The MOA must be signed by all consulting parties and approved by the ACHP prior to construction activities. If no adverse effects are found and the SHPO/THPO or the ACHP do not object within 30 days of receipt, the public agencies' responsibilities under Section 106 will be satisfied upon completion of report and documentation as stipulated in 36 CFR Part 800.11. The information must be made available for public review upon request, excluding information covered by confidentiality provisions.

## 3.2 State Evaluations

Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code Section 21084.1, 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." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (see Public Resources Code, Section 21084.1 and CEQA Guidelines, Section 15064.5(a) and (b)). The term embraces any resource listed in or determined to be eligible for listing on the CRHR. The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR, and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, the lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (Pubic Resources Code, Section 21084.1 and CEQA Guidelines, Section 15064(a)(3)). Given that the CRHR was modeled after the NRHP, it has very similar eligibility criteria. Generally, to be considered significant under CEQA, a resource must possess integrity and demonstrate eligibility under at least one of the following criteria (California Code of Regulations 15064.5):

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; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Archaeological resources can sometimes qualify as historical resources (CEQA Guidelines, Section 15064.5(c)(1)). In addition, PRC Section 5024 requires consultation with the OHP when a project may impact historical resources located on state-owned land.

For historic structures, CEQA Guidelines Section 15064.5(b)(3) indicate that a project that follows the Secretary of the Interior (SOI) Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the SOI Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources Public Resource Code Section 21083.2(g) states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

(Public Resources Code Section 21083.2(g))

Treatment options under Section 21083.2 include activities that preserve such resources in place and in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation, or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies, be solicited as part of the process of cultural resources inventory.

## 3.3 Local Evaluations

To assess the importance of cultural resources, the County directs professionals to consider historical resources, unique archaeological sites, and human remains pursuant to CEQA, and this includes locally recognized resources. In addition, resources must be evaluated as significant prehistoric or historic sites as defined by the County's RPO (Regulatory Ordinances Sections 86.601-86.608). The County's criteria for determining significance are outlined below (San Diego 2007):

**Criteria for the Determination of Resource Importance**

Several criteria are used in identifying significant historic/archaeological resources and are based upon the criteria for inclusion in the San Diego County Local Register. Significance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, and culture. The San Diego County Local Register was modeled after the CRHR. As such, a cultural resource is determined significant if the resource is listed in, or determined to be eligible for listing in the NRHP, the CRHR, or the San Diego County Local Register of Historical Resources. Any resource that is significant at the national or state level is by definition significant at the local level.

The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, or is not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or is not identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that a resource may be historical as defined in Public Resources Code Section 5020.1(j) or 5024.1.

The following criteria must be considered when evaluating a resource's importance. The first four criteria were derived from the significance criteria found in CEQA and the San Diego County Local Register of Historical Resources (Ordinance No.9493; San Diego County Administrative Code §396.7). The San Diego County Local Register is similar to both the NRHP and CRHR, but is different in that significance is evaluated at the local level.

1. Resources associated with events that have made a significant contribution to the broad patterns of California or San Diego County's history and cultural heritage.

2. Resources associated with the lives of persons important to our past, including the history of San Diego County or its communities.

3. Resources that embody the distinctive characteristics of a type, period, region (San Diego County), or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. Resources that have yielded or may be likely to yield, information important in prehistory or history.

   Most archaeological resources contain information; however, the amount of information varies from resource to resource. For example, a small lithic scatter will contain information, but it will be on a much more limited basis than that of a village or camp site. The information may be captured during initial recordation and testing of the site or may require a full data recovery program or additional treatment/mitigation.

   Any site that yields information or has the potential to yield information is considered a significant site. Most resources will be considered significant because they contain some information that contributes to our knowledge of history or prehistory. The criteria used to evaluate a single resource are the same criteria used to evaluate cumulative impacts to multiple resources outside the boundary of a project.

5. Although districts typically will fall into one of the above four categories, because they are not specifically identified, the following criterion is included which was obtained from the NRHP:

Districts are significant resources if they are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition, but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture. A traditional cultural landscape is an example of a prehistoric district because individual sites must be considered within the broader context of their association with one another.

6. Resource Protection Ordinance (RPO). Cultural resources must be evaluated for CEQA as outlined in criteria 1 through 4 above and the RPO pursuant to Section 2 of the ordinance. Under the RPO, cultural resources are considered RPO significant if they meet the definition of an RPO Significant Prehistoric or Historic Site, as follows:

    1. Any prehistoric or historic district, site, interrelated collection of features or artifacts, building, structure, or object either:

        a. Formally determined eligible or listed in the NRHP by the Keeper of the NRHP; or

        b. To which the Historic Resource ("H" Designator) Special Area Regulations have been applied (see County Zoning Ordinance); or

    2. One-of-a-kind, locally unique, or regionally unique cultural resources which contain a significant volume and range of data and materials; and

    3. Any location of past or current sacred religious or ceremonial observances which is either:

        a. Protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code Section 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures or,

        b. Other formally designated and recognized sites which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

7. Human remains are considered highly sensitive by the County. As such, human remains require special consideration and treatment. Regulations require that if human remains are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the NAHC, shall be contacted in order to determine proper treatment and disposition of the remains. This criterion was included pursuant to CEQA (§15064.5), and California State Code (Public Resources Code 5097.98 and Health and Safety Code 7050.5). As such, a resource shall be considered significant if it contains any human remains interred outside of a formal cemetery. Mitigation measures will be developed on a case by case basis by the County Archaeologist and the archaeological consultant. In addition, it is of the utmost importance to tribes that human remains be avoided whenever feasible.

8. Integrity is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated through the assessment of a cultural resource's attributes, and may include location, design, setting, materials, workmanship, feeling, and association. It must be judged with reference to the particular criteria under which a resource is proposed for eligibility (structural, architectural, artistic, historic location, archaeological site, historic district). Alterations over time to a resource or historic changes in its use may themselves have historical, cultural, or architectural significance.

To assess integrity one must:

- Define essential physical features that must be present to a high degree for a property to represent its significance;
- Determine whether the essential physical features are apparent enough to convey the property's significance; and
- Compare the property with similar properties in the locally significant theme.

Properties being considered for the first five criteria above must not only retain the essential physical features, but the features must be visible enough to convey their significance and historical identity. This means that even if a property is physically intact, its integrity is questionable if its significant features are concealed under modern construction. Archaeological properties are the exception to this – by nature they may not require visible features to convey their significance.

Unless a resource is determined to be not significant based on the above criteria, it will be considered a significant resource. If it is agreed to forego significance testing on cultural sites, the sites will be treated as significant resources and must be preserved through project design. In addition, a treatment plan must be prepared that will include preservation of cultural resources.

# 4.0 Methods of Investigation

The primary purpose of this CRA is to determine whether cultural resources are located within or near the proposed project's APE and whether these resources will be or could be affected by project implementation. To accomplish this, research (including records searches) and pedestrian surveys were conducted. The results of these efforts assist in determining if resources are present, and if present, would be potentially affected by the proposed project. The CRA included the following tasks:

- Establishment of the APE for the proposed project.
- Review of regional history and previous cultural resource sites and studies within the APE and the vicinity.
- Examination of archival maps and aerial photographs for the APE and the general vicinity.
- Request of an NAHC SLF record search and contact with Indian tribes and individuals as named by the NAHC.
- Conduct a pedestrian survey of the APE.
- Completion of DPR 523 Forms and Update Forms for resources, as appropriate.
- Evaluate the potential for the proposed project to affect cultural resources.

Develop recommendations associated with potential impacts to existing cultural resources following the guidelines as outlined in Section 3.0, Regulatory Framework.

## 4.1 Area of Potential Effects

The proposed study area for this assessment has been defined as an Area of Potential Effects (APE) that considers Alternative Alignments 1, 2 and 3, as well as locations for a meter station, potential pump station, disinfection facility and outfall structure associated with the proposed project. Specifically, the APE encompasses the footprint of these components along with a 150 to 500-foot-wide corridor. The draft APE measures approximately 129.27 acres (Figure 1). The APE has been assessed through existing literature searches and records reviews, as well as a pedestrian survey.

## 4.2 Record Searches

### 4.2.1 California Historical Resources Information System Search

The primary purpose of a cultural resources record search is to determine what cultural resources have been recorded in the vicinity of or within the APE, and whether known resources will be or could be affected by project implementation. A records search was performed at the SCIC which is located at San Diego State University, San Diego. The SCIC is the California Historical Resources Information System (CHRIS) historical resource data repository for San Diego and Imperial Counties. The records search included reviews of archival maps and examinations of current inventories, including:

- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Historical Landmarks (CHL)
- California Points of Historical Interest (CPHI)
- California State Historic Resources Inventory (HRI)

### 4.2.2 Native American Heritage Commission Record Search

Atkins sent a SLF database search request to the NAHC to determine whether any properties of traditional cultural value were recorded within the APE or in the general vicinity. Thereafter, information request letters were sent to the Indian tribes and individuals named by the NAHC as having potential knowledge of sacred sites.

## 4.3 Intensive Pedestrian Survey

The primary purpose of the pedestrian survey is to locate and document previously recorded or new cultural resource sites or isolates that are more than 50 years old within the APE and to determine whether such resources would be impacted by project implementation. Atkins archaeologists completed an initial pedestrian survey of the APE on September 26 and 27, 2013. Additional pedestrian surveys were conducted by Atkins archaeologists on April 15, 2013, October 16, 2014 and January 15, 2015. Photographs and notes were taken to document existing conditions throughout the APE. The APE was examined via a transect technique with 15-meter spacing in areas lacking existing development. Areas exhibiting paved roads, concrete sidewalks, concrete water control features, and modern landscaping were not surveyed due to a lack of observable native soils. In the vicinity of previously recorded sites, areas were further scrutinized via meandering transects to allow for additional visual examination of the ground surface. If previously unknown cultural resources were detected during the field survey, the resources were recorded onto DPR 523 Forms.

The intensive pedestrian survey covered a 150-foot to 500-foot wide corridor along the proposed pipeline alternative alignments and locations for additional infrastructure. The majority of the survey consisted of a 150-foot wide corridor, however, a 500-foot corridor was surveyed for the southern portion of Alternatives 2 and 3 that cross under the existing SDG&E power transmission lines and easement and run south to the U.S./Mexico border. The additional width was surveyed to provide input into the development of the three alternative alignments. The 500-foot wide survey corridor also includes the potential location near the border for a collated meter station, disinfection facility and pump station.

All areas exhibiting observable ground surface within Alignment Alternatives 1, 2 and 3 were surveyed, including a small area portion of Alternative Alignments 1, 2 and 3 south of Roll Reservoir, the District-owned parcels surrounding Roll Reservoir, the outfall structure footprint in O'Neal Canyon and the potential disinfection facility footprint located east of the intersection of Alta Road and Donovan State Prison Road.

# 5.0 Environmental Setting

The APE is located on 129.27-acres found immediately north of the U.S./Mexico border on Otay Mesa. Otay Mesa is part of the Linda Vista Terrace, which is one of a series of three marine terraces extending along the coastline of metropolitan San Diego. The terraces include the La Jolla Terrace, Linda Vista Terrace, and Poway Terrace. Otay Mesa and the Linda Vista Terrace occur between the elevations of 300-feet and 500-feet above mean sea level (RECON 2013).

The surface of the Otay Mesa terrace is primarily composed of the Lindavista Formation, which is comprised of nearshore marine and non-marine deposits dating from the early Pleistocene. This formation is a cobble conglomerate with a generally reddish-brown, coarse sand matrix. At the eastern end of the terrace, the Lindavista Formation is overlain by the Otay Formation, which is alluvial fan and fluvial deposits divided into three types: a lower conglomerate, a middle gritstone, and an upper mudstone/sandstone. These two formations sit atop the San Diego Formation (RECON 2013).

The Otay Formation is a member of the Rosarito Beach Formation, which correlates to the lower 200-meters of the San Diego Formation. This formation is of Miocene-Pliocene age and contains numerous cobble clasts, including a high percentage of local Santiago Peak Volcanics. The clasts are predominately dacites and andesites that are embedded within poorly indurated sandstones and siltstones. Because these clasts are derived from the nearby basement strata, they contain a relatively high percentage of fine-grained metavolcanics that were favored by prehistoric occupants as raw materials for lithic tool manufacture. Outcroppings of the Santiago Peak Volcanics are present along the eastern margin of the area and in the central part of the Otay Valley (Gallegos and Associates 2006).

The soils of Otay Mesa have generally been disturbed by farming activities for more than 100 years (Gallegos and Associates 2006) and the APE exhibits a variety of additional soil disturbances. The northern portion of the APE exhibits modern development, including paved roads, concrete sidewalks, and concrete water control features. Surrounding development consists of several industrial properties along Paseo de la Fuente, the Richard J. Donovan State Correctional Facility, the San Diego Regional Firearms Training Center (RFTC), and the County of San Diego George F. Bailey Detention Facility. The southern portion of the APE is predominately undeveloped, though a vast network of dirt roads and the existing SDG&E power transmission lines and easement traverse Alternatives 1, 2, and 3. In currently undeveloped areas, vegetation is generally very dense and characterized by non-native species, including matted grasses, fennel, and Russian thistle.

# 6.0 Cultural Setting

The following is a brief overview of the prehistoric and historic context in which to understand the relevance of sites found within the APE and the general vicinity of the proposed project. Additional background information can be found in ethnographic studies, mission records, and major published sources including Kroeber (1925), Wallace (1955), Warren (1968), Heizer (1978), Moratto (1984), Chartkoff and Chartkoff (1984), Fagan (2003) and Jones and Klar (2007).

## 6.1 Prehistoric Background

The APE is located in the southern portion of the San Diego sub-region of the California Southern Bight Archaeological province. Recent studies on Native American (Pre-Contact) human occupation in San Diego County recognize the existence of at least two major cultural traditions, identified as the Early Period/Archaic and Late Period (Gallegos 2007). The cultural setting provided by Gallegos (2007) is used form the following prehistoric background for this report.

### 6.1.1 Early Period/Archaic

The Early Period/Archaic includes the time period spanning from approximately 10,000 to 1,300 years ago, and includes the San Dieguito, La Jolla and Pauma Complexes (Gallegos 2007). The San Dieguito Complex is chronologically equivalent to other Paleo-Indian complexes across North America (Moratto 1984). Originally defined by Rogers (1939) and refined by Warren (1967), the material culture of the San Dieguito Complex is primarily characterized by a well-developed flake stone component consisting of scrapers, scraper planes, choppers, drills, gravers, large lanceolate bifaces, and large foliate (leaf-shaped) projectile points (Byrd and Raab 2007). Various researchers recognized the regional similarity of such artifact assemblages, and termed interior sites of the same age as either the Western Pluvial Lakes Tradition or the Western Lithic Co-tradition (Moratto 1984; Gallegos 2007). There is an overall lack of milling stone equipment, suggesting hard seeds may not have been an important part of the diet. San Dieguito sites are typically found on or near former pluvial lake shores, marshes, and old stream channels, and coastal sites indicate that shellfish was an important dietary resource for peoples living nearer the Pacific Ocean (Byrd and Raab 2007). Sleeping circles, trail shrines (cairns), and rock alignments have also been associated with San Dieguito sites, helping to support the conclusion that San Dieguito peoples practiced a mobile hunting and gathering lifestyle based on terrestrial and aquatic resources.

The La Jolla and Pauma Complexes are often referred to as chronologically following the San Dieguito Complex. The La Jolla Complex is associated with shell midden sites on the coast while the Pauma Complex associated with inland sites, particularly located in valleys and sheltered canyons in northern San Diego County (Moratto 1984). Because the two complexes have similar artifact assemblages, it is believed by some archaeologists that the Pauma Complex may represent an inland variant of the La Jolla Complex (Gallegos 1987). It is also theorized by some archaeologists that the Pauma and La Jolla complexes may represent a seasonal or geographic variation of the older and more general San Dieguito Complex (Gallegos 1987). This theory is based upon a pattern of observable cultural continuity exhibited in the material culture assemblages of Early/Archaic Period sites (Gallegos 2007). Nonetheless, many researchers have focused on the proliferation of ground stone tools and an increased level of sedentism to differentiate the La Jolla and Pauma Complexes from the San Dieguito Complex.

The La Jolla and Pauma complexes reflect subsistence patterns focused on gathering plant foods and small animals, including near-shore fish and shellfish resources (Byrd and Raab 2007). Various types of ground stone milling toolkits, including manos and metates, appear in large numbers, and become the dominate tool in their assemblages. In addition to manos and metates, assemblages contain a mix of finely worked stone artifacts including discoidals, cog stones, small domed scrapers, flaked cobble tools, and large notched and stemmed dart points. Human remains often consist of flexed burials with the head pointed northward and located under rock cairns and often contain many killed (broken) tools.

### 6.1.2 Late Period

By the advent of the Late Period, a material culture pattern similar to that of historic Native Americans becomes apparent in the archaeological record. Cultural change and social complexity reflects both an *in-situ* adaptation to changes in variations in environmental conditions, as well as an influence from outside groups (Byrd and Raab 2007). The results of these adaptations are reflected in changes in the material culture, subsistence patterns, and burial practices throughout the period. During this period in history, the bow and arrow and the mortar and pestle toolkits are introduced to the San Diego cultural area. As a result, there appears to be a shift away from a reliance on the gathering of coastal resources to an emphasis on terrestrial resources, particularly game hunting and acorn harvesting and processing.

Two Late Period Complexes are identified in San Diego County, including the Cuyamaca and the San Luis Rey. The San Luis Rey Complex is associated with northern San Diego County, while the Cuyamaca Complex is associated with the southern San Diego coast and foothills. The Cuyamaca Complex is primarily known from the work of D. L. True at Cuyamaca Rancho State Park, which is located approximately 30 miles to the northeast of Otay Mesa. Several distinguishing traits identify the Cuyamaca Complex from the San Luis Rey Complex. These cultural identifiers include a wide range of ceramic items (bowls, pots, ollas); utilitarian and ornamental objects produced from steatite; clay lined hearths; and defined cemeteries (Moratto 1984). Higher frequencies of milling stone tools, flaked stone tools, side-notched projectile points, ceramics, also differentiate Cuyamaca Complex sites from that of the San Luis Rey Complex sites. Steatite items include arrowshaft straighteners, pendants, comales (heating stones). Ceramics appear for the first time in the form of Tizon Brownware pottery, including ceramic figurines reminiscent of Hohokam styles, rattles, and miniature pottery vessels. Stone artifacts include scrapers, choppers, hammerstones, bone awls, manos and metates, and mortars and pestles. Projectile points consist of Desert Side-Notched and less commonly Cottonwood Series projectile points and these small points indicate the advent of the bow and arrow (RECON 2013).

## 6.2 Ethnohistoric Background

The APE is located in the traditional territory of the Kumeyaay dialect branch of the Diegueño ethnic nation (Luomala 1978). Diegueño territory stretched along the Pacific coast from central San Diego County into Baja California, past Ensenada. From the coast, their territory extends to the east into the Yuha and Anza Borrego Deserts. Their territory then extends to the north toward San Felipe Creek and Agua Hedionda (Luomala 1978). Neighboring groups were the Luiseño and Cupeño to the north, the Cahuilla and Quechan to the east, and the Pai-pai of Baja California to the south.

Diegueño is recognized as a member of the California-Delta Yuman division of the Yuman-Cochimi language family, and includes three main dialects: Ipai, Kumeyaay, and Tipai (Luomala 1978). The Ipai occupied the central portion of San Diego County, while the Kumeyaay inhabited the southern portion of the county, including lands extending into the California portion of the Colorado Desert. The Tipai territory

included the lands from Jamul southward into Baja California, south of Ensenada. Modern ethnographers tend to combine the Kumeyaay and the Tipai as a single, continuous social group, and the APE is located within the Kumeyaay traditional territory.

Within Kumeyaay territory, bands comprised of approximately five to 15 autonomous kinship groups controlled portions of land measuring between 10 and 30-miles in length. These areas were located within drainage systems extending from the coast to the desert via the foothills and mountains (Shipek 1982). This allowed the groups to have access to resources from multiple ecological zones throughout the year. Thus, Kumeyaay subsistence patterns included fishing and hunting, as well as desert irrigation farming along the Colorado River and its tributaries. Wild plants and seeds were also harvested, including agave, yucca, manzanita, elderberry, chia, buckwheat, cholla, prickly-pear cactus, piñon nuts, and acorns. Acorns were gathered from several different species of oak in the late summer, and were stored in family and village granaries. Mesquite replaced acorn as a primary staple for Kumeyaay living in the eastern deserts (Luomala 1978). Wild game included woodrats, rabbits, doves, geese, quail, deer, antelope, and mountain sheep.

Shelter consisted of winter village structures and summer camp dwellings. Winter village sites were often found at lower elevations and within sheltered locations. These villages were comprised of dispersed single-family dwellings, which were composed of semi-subterranean, circular wooden pole frameworks that were covered with brush thatch and/or earth. Rectangular openings were constructed and faced east, while doors were placed to guard against the wind (Luomala 1978). A family-owned platform granary may have also accompanied this structure. Other structures found in the winter village included a communal ceremonial flat-roofed brush shelter, a dance ground, and a semicircular shelter for the *keruk* mourning ceremony. The dance circle and ceremonial shelter were often reinforced with a low rock wall. Summer campsites were less elaborate, and were selected for access to water, drainage, dietary resources, and protection from the elements. Windbreaks, trees, and/or caves with rocky overhangs served as summer campsite shelters.

Kumeyaay peoples had a varied material culture reflective of the many ecosystems they utilized. They created finely woven baskets; twined caps; agave fiber sandals; a variety of ceramic vessels, including miniature forms, pipes, and human figures; throwing sticks; mesquite war clubs; and a double-bladed paddle which was use with their tule watercraft (Luomala 1978; Pritzker 2000). They largely traded amongst their own group; however, they also participated in trade between the southwest and the Pacific coast.

In 1769, the Presidio at San Diego and the Mission San Diego de Acalá were established. These events disrupted the culture of the Kumeyaay and all Diegueño groups. Many of the people were physically removed from their traditional territory, and were forced to work for the mission. Despite this disruption, the Diegueño were able to maintain a certain level of unity and led a successful revolt against the Spanish in 1775. By the advent of the Mexican era and the subsequent secularization of mission holdings, most Diegueño were participating in wage labor as ranch hands and cowboys on local ranchos.

When California became a part of the United States in 1848, the federal government attempted to create treaties with the local Native American groups. Several Diegueño leaders signed statewide treaties in 1852, but these were never ratified by Congress. Between 1875 and 1910, several reservations were formed in the Cuyamaca and Palomar Mountains as well as the local valleys for Diegueño peoples. These include Barona Ranch; Campo; Capitan Grande; Cuyapaipe; Inaja-Cosmit; Jamul; La Posta; Los Coyotes (shared with Mountain Cahuilla); Manzanita; Mesa Grande; San Pasqual; Santa Ysabel; Sycuan; and Viejas (Pritzker 2000).

In the 1920s, many Diegueño became members of the Mission Indian Federation, which was organized to lobby for self-rule on southern California reservations. During World War II, Diegueño served in the military abroad, while many tribal members in the United States moved off the reservations to work in war-related industries in Los Angeles and San Diego. Today, most people of Diegueño descent prefer to be referred to as Kumeyaay, and are divided into 12 bands. Collectively, they are known as the Kumeyaay Indian Nation. Controlling over 70,000-acres of their ancestral land, the Kumeyaay Indian Nation constitutes one of the largest land owners in San Diego County (Viejas Band of Kumeyaay Indians 2013).

## 6.3 Historic Era Background

### 6.3.1 The Spanish Period (1769 to 1821)

The Spanish colonization of California was achieved through a program of military-civilian-religious conquest. Under this system, soldiers secured areas for settlement by suppressing Native and foreign resistance and established fortified structures (presidios) from which the colony would be governed. Civilians established towns (pueblos) and stock-grazing operations (ranchos) that supported the settlement and provided products for export. The missionary component of the colonization strategy was led by Spanish priests, who were charged with converting Native Americans to Catholicism, introducing them to Spanish culture, and training them as a labor force. Ultimately, four presidios and 21 missions were established in Spanish California between 1769 and 1821 (Beck and Haase 1974). The Mission San Diego de Acalá was established in 1769 by Padre Serra, and had extensive land holdings in the region (Sandos 2004). During this period there were no family owned ranchos on Otay Mesa, as the mesa was a part of the Mission San Diego de Acalá (RECON 2013).

### 6.3.2 The Mexican Period (1821-1848)

Mexico achieved independence from Spain in 1821, and California became a distant outpost of the Mexican Republic. Under a law adopted by the Mexican congress in 1833, the former mission lands were secularized and subdivided into land grants. In 1829, Dona Magdalena Estudillo was granted the 6,657-acre Rancho Otay. The Rancho Otay included the Otay River Valley and primarily served as a cattle ranch. However, some horses were raised and crops were grown for use at the ranch (RECON 2013).

### 6.3.3 American Period (1848 to Present)

The American Period began in 1848 when Mexico ceded California to the U.S. under the Treaty of Guadalupe Hidalgo. Mexican ranchos were subdivided or sold during this period, and much of the land that once constituted rancho holdings became available for settlement by immigrants to California.

Development in Otay Mesa commenced in the 1870s (RECON 2013; Gallegos and Associates 2006). Much of the land was acquired via the Homestead Act of 1862, through a timberculture bill that became law in 1873 and was repealed in 1891, or by direct purchase from the government or individual landowners. Many of these early settlers were German immigrants (Gallegos and Associates 2006). Farming developed throughout the 1870s, and by the end of the decade, most of the mesa was under intensive agriculture. Due to a lack of reliable water resources, dry farming was employed, and wheat, barley, and corn were among the early successful crops (Gallegos and Associates 2006). Thereafter, typical crops grown on the mesa consisted of wheat, barley, corn, tomatoes, and beans. Water sources for these crops and for household uses were obtained from nearby streams, wells, and catchment basins, and an extensive system of dams had been developed to store runoff water by the early 1900s (RECON 2013).

Ranching and farming continued to be the main vocation of Otay Mesa residents throughout most of the twentieth century. However, the population and composition of farming families fluctuated in the 1930s as a result of hardships related to the Great Depression (RECON 2013; Gallegos and Associates 2006).

Within the recent decades, formerly vacant land has been developed for light industrial uses, business parks, and more recently, residential projects. Several developments are currently found adjacent to the APE boundaries, including industrial uses along Paseo de la Fuente. In addition, the Richard J. Donovan State Correctional Facility, the San Diego RFTC, and the County of San Diego George F. Bailey Detention Facility have been constructed nearby. The San Diego RFTC and the George F. Bailey Detention Facility are located immediately adjacent to the APE and the Roll Reservoir, and were constructed between 1989 and 2003 (NETR 2013).

# 7.0 Results

## 7.1 Cultural Resources Records Search Results

### 7.1.1 CHRIS Records Search Results

Atkins requested a cultural resource records search from the SCIC on June 28, 2013 and received the results on July 26, 2013. To identify any cultural resources within or near the APE, a one mile search radius was used. A review of the San Diego County Historic Addresses Database indicated that no historic age structures have been recorded within the APE or a one mile radius. Construction of the District's Roll Reservoir was completed in 1968, thus rendering it less than 50 years in age and not a potentially eligible resource.

Eight archaeological resources have been recorded within or partially within the APE boundary. These resources and the history of associated fieldwork are described in detail in Table 1 below. Their locations are also shown in relation to the APE boundary in Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE. The eight resources within or partially within the APE include:

- CA-SDi-07215 [Locus A]
- CA-SDi-07218
- CA-SDi-08654
- CA-SDi-10297
- CA-SDi-10627
- CA-SDi-10668
- CA-SDi-11793
- CA-SDi-12877

The previously recorded resources have been subject to a variety of fieldwork, including survey, testing and data recovery efforts between the 1970s and present day. Six of the resources have been tested and found to be not significant (CA-SDi-07215 [Locus A], CA-SDi-10297, CA-SDi-10668, CA-SDi-10627, CA-SDi-11793 and CA-SDi-12877) and one resource has not been formally tested or evaluated (CA-SDi-10627). The remaining resources have been subject to monitoring or testing and data recovery with a variety of results. Portions of several resources have been recommended as eligible for the NRHP including CA-SDi-08654, and CA-SDi-10297 (prehistoric component only), and CA-SDi-10668, or eligible for the CRHR and/or locally important as defined by San Diego County (CA-SDi-07215 [Locus B only], outside of APE).

The results of the records search also indicated that 97 resources are known to occur within a one mile radius of the APE. The resources are primarily prehistoric and consist of lithic scatters, temporary camps, and habitation sites of varying sizes. One of these sites is known to contain human remains (CA-SDi-12704). This site is located more than 0.25 mile from the APE boundaries. All known resources within one mile and their location in regards to the APE are summarized below in Table 2.

One hundred fifty area-specific survey reports are on file with the SCIC for the one mile search radius. Fifty-three of the reports addressed various portions of the APE, indicating that approximately 95 percent of the APE has been previously surveyed for cultural resources and 100 percent of the APE has been addressed through literature reviews. The locations of all reports addressing the APE are shown with reference to the APE boundaries in Confidential Appendix A, Figure A-3: Previous Studies within the APE.

**Table 1 Record Search Results of Known Cultural Resources within the APE**

| Site Number | Recorder Name and Date | Resource Description |
|---|---|---|
| CA-SDi-07215 | Originally recorded by V. Taton, 1979. Updated by Corum, 1979 and Gallegos and Associates, 2006 and 2007. | Prehistoric – This resource was originally recorded in 1979 as a lithic scatter measuring approximately 42,000 square meters and lacking a midden. An update also occurred in 1979, and the resource was described as a San Dieguito site consisting of 200+ flakes/debitage, 50+ core tools, 5+ scrapers and a blade. During the 1979 update, the dimensions of the site were identified as extending at least 0.40 mile along Alta Road and covering several knolls.<br>A DPR 523 Update Form was completed in 2006 by Gallegos and Associates. This update provided the details of a subsurface testing program for the western portion of Locus A. The update also provides a map outlining the testing and mitigation work completed on CA-SDi-07215 between 1979 and 2006. While there are no DPR 523 Forms to outline the history of work completed on-site, Gallegos and Associates shows that CA-SDi-07215 had been subject to subsequent work by Smith and Moriarty in 1985, as well as Gallegos and Associates in 2000 (Gallegos and Associates 2000) and 2002. As a result of these efforts, the boundaries of CA-SDi-07215 had been expanded and divided into two loci (CA-SDi-07215 [Locus A] and CA-SDi-07215 [Locus B]). Through testing and mitigation monitoring completed by Gallegos and Associates in 2000, 2002 and 2006, CA-SDi-07215 [Locus A] had been found to be not significant (Gallegos and Associates 2006), while CA-SDi-07215 [Locus B] was deemed significant and mitigated.<br>In 2007, an area within the southern portion of CA-SDi-07215 [Locus A] was monitored during a Border Station project. No cultural deposits were encountered and this portion of the site was destroyed as a result of the project (Gallegos and Associates 2007).<br>As a result of the testing and mitigation efforts at this site over time, CA-SDi-07215 [Locus B] has been found significant and all other portions of the site have been tested and found to be not significant. |
| CA-SDi-07218 | Recorded by J. Theskin, 1979. | Prehistoric – This resource is described as isolated flakes in three areas and was determined to be not significant in 1979. However, this resource was later incorporated into a larger site recorded in the immediate vicinity (CA-SDi-10668). CA-SDi-10668 (prehistoric) has been determined not to be significant, and CA-SDi-10668 (historic) has been determined to be potentially significant (Gallegos 1988). |
| CA-SDi-08654 | Originally recorded by N. Clark, 1981. Updated by Gallegos and Associates, 2005. | Dual-component (Historic age and Prehistoric) – This site was originally recorded in 1981 as occupying 187,500 square meters and was named Kuebler Ranch. The historic age component consists of ranch buildings and the prehistoric component is a village site exhibiting a dense scatter of lithic and milling implements.<br>A DPR 523 Update Form was completed in 2005 by Gallegos and Associates. This update provided the details of a subsurface testing program for a small area within the eastern portion of the site. The update also provided a narrative explanation and a map outlining data recovery work, testing programs and NRHP eligibility recommendations for CA-SDi-08654 completed between 1981 and 2005. While there are no DPR 523 Forms to outline the history of work completed on-site, Gallegos and Associates shows that CA-SDI-08654 had been subject to subsequent work by Cultural System Research, Inc. (CSRI) in 1983 (CSRI 1983), Kyle in 1990, and Kyle and Gallegos in 1994. As a result of these collective efforts, the boundaries of CA-SDi-08654 had been expanded to the west from the Kuebler Ranch area, across Alta Road. A small percentage of the site has been tested or subjected to data recovery efforts and found to be not significant or mitigated through data recovery and another small area has been found significant. The remainder of the site has not been previously tested. These areas are shown in relation to the site boundary and APE boundary in Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE. |

**Table 1 Record Search Results of Known Cultural Resources within the APE**

| Site Number | Recorder Name and Date | Resource Description |
|---|---|---|
| | | In 1983, CSRI recommended that the site was potentially eligible for listing on the NRHP (CSRI 1983) and the site update completed by Gallegos and Associates in 2005 reiterated that all previously untested portions of the site may be eligible for the NRHP. Therefore, testing would be required in any unevaluated portions of the site to verify site significance. |
| CA-SDi-10297 | Originally recorded by Brian F. Smith, 1984. Updated by Gallegos and Associates, 2004; N. Collins of BFSA, 2007; and Gallegos and Associates, 2007. | Dual-component (Historic age and Prehistoric) – The site was originally described as containing dense lithic artifact concentrations with intervening sparse scatters and a historic cistern. In 1984, the recorder noted that initial testing indicated that the site may have a subsurface component of more than 60 centimeters; however, no information was provided about the extent of the testing program.<br>The site was readdressed in 2004 and the DPR 523 Update noted that work was completed in 2000 by Gallegos and Associates. While no DPR 523 Update Form is available for the 2000 work, a report is available to outline the testing program. The results of the testing led to a recommendation that the site was potentially eligible for inclusion in the CRHR and the NRHP (Gallegos and Associates 2000). The 2004 update noted no changes in the site condition that would compromise the integrity of the site or eligibility for inclusion in the NRHP.<br>In 2007, the site was subjected to a subsurface testing program consisting of 15 STPs and one test unit by BFSA. As a result of these efforts, an intact deposit was detected and the prehistoric component was identified as having additional research potential. This rendered the prehistoric component an important resource. However, the historic age component was deemed an isolated occurrence and determined to be no important pursuant to CEQA.<br>Gallegos and Associates completed monitoring activities within the southern portion of the site in 2007. During construction monitoring in 2007, lithic and groundstone tools, a shell fragment, and historic age artifacts were recovered. The prehistoric component was found to represent Early Period Archaic (middle Holocene) occupation and diagnostic historic age artifacts represented a date range of 1880 to 1915 (Gallegos and Associates 2007).<br>In Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE, the prehistoric component is shown as significant. |
| CA-SDi-10627 | Originally recorded by S. Hector and S. Wade of RECON, 1986. Updated by N. Blotner and S. Clowery of HDRe2M, 2010. | Prehistoric – First recorded in 1986, this site was described as a surface scatter characterized by an abundance of stone tools made from locally abundant green felsite. At this time, the site measured about 30,000 square meters. Two test units were excavated to the west of Alta Road and they returned negative results. The site was described as similar to CA-SDi-07215 and CA-SDi-08654 in artifact content and potentially related; however no intervening artifacts were observed at the surface.<br>This site was readdressed in 2010 via a pedestrian survey, but no artifacts, ecofacts, features, or midden soils were identified either within or outside the recorded site boundaries. |
| CA-SDi-10668 | Originally recorded by J. Thesken, 1979. Updated by C. Kyle of WESTEC, 1986 and N. Blotner and S. Clowery of HDRe2M, 2010. | Dual-component (Historic age and Prehistoric) – This resource was originally recorded as isolated flakes in three areas, but was updated by WESTEC in 1986 as a multi-component site consisting of six loci (Loci A through F). The site also subsumed CA-SDi-8655, CA-SDi-8656, and CA-SDi-7218.<br>The prehistoric component was characterized as a quarry site with associated lithic scatters and flaking stations. The historic age component consists of a mortar, cement, asphaltum and rock cistern, an unattached metal pipe, and glass and shell fragments around the cistern. A line of eucalyptus trees and a cement trough were also noted. The historic age component was assigned a date of circa 1930. The prehistoric component was evaluated and determined not to be significant. The historic component was evaluated and determined to be significant. Mitigation was recommended (Gallegos 1988) and completed (Phillips and Van Wormer 1991) for the historic component. |

**Table 1 Record Search Results of Known Cultural Resources within the APE**

| Site Number | Recorder Name and Date | Resource Description |
|---|---|---|
| | | In 2010, HDRe2M visited the site and failed to relocate the historic age resources. At this time, the recorders noted that most of the site had been destroyed by construction of the East Mesa Detention Center (George F. Bailey Detention Facility). A review of aerial imagery in 2010 indicated that some areas of exposed native soil still exist at the southern, western and northern boundaries of the site; however, the majority of the site no longer existed.<br>This site is shown as not previously tested in Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE. However, it is possible that this site may have been destroyed by previous development. |
| CA-SDi-11793 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. Updated by M. Robbins-Wade of Affinis, 2005-2006 and N. Collins of BFSA, 2007. | Prehistoric – This site was initially recorded in 1989 as a sparse lithic scatter with flakes/debitage and cores (Affinis 1990). At this time, the site measured approximately 46,730 square meters and was described as highly disturbed due to plowing and expected future plowing activities.<br>The site was relocated in by C. Kyle in 2001 and a new bedrock milling feature was detected. Extended Phase I testing was not recommended at the portion of this site addressed in 2001 in compliance with the definition for sparse lithic scatters as outlined by the Management Plan for Otay Mesa Prehistoric Resources (Kyle Consulting 2001; Gallegos and Associates 1998).<br>In 2005-2006, Affinis subjected the majority of the site to subsurface testing, with the exception of two small areas containing sensitive biological resources. The testing program included 15 STPs throughout the site and yielded minimal subsurface artifact content, characterized by debitage. These findings led to a recommendation that the site was not significant.<br>BFSA addressed the eastern edge of the site in 2007 and completed 3 STPs. As a result of these field efforts, the site was determined not important pursuant to CEQA.<br>As a result of the testing efforts, the majority of the site has been subjected to subsurface examination and the site has been determined to be not significant. This is shown in Confidential Appendix A, Confidential Figure A-2: Significance Findings for Resources in the APE. |
| CA-SDi-12877 | Recorded by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Recorded in 1991 as a light density lithic scatter with San Diego Peak metavolcanic tools and debitage. At this time, the site was described as occupying 183,000 square meters and exhibiting good integrity.<br>Recommendations provided in the East Otay Mesa Specific Plan Cultural Resources Technical Report indicate that testing is still needed at this site to determine site significance (Gallegos and Associates 1993).<br>In 2000, Gallegos and Associates completed a surface collection and four STPs. As a result of this work, the site was determined to lack a subsurface component. In addition, the site was recommended as not significant, ineligible for the CRHR and ineligible for the NRHP (Gallegos and Associates 2000).<br>The site could not be relocated during a survey in 2001 and was described as destroyed. Further, extended Phase I testing was not recommended at this site (Kyle Consulting 2001).<br>In 2008, SHPO provided concurrence and confirmed the ineligibility of this site for the NRHP (Rosen 2008). |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-04732 | Recorded by M. Waters, 1973. Updated by B. Smith of Brian F. Smith and Associates (BFSA), 1996. Updated by N. Blotner of HDRe2M, 2010. | Prehistoric – Lithic scatter consisting of cores, flakes, scrapers, and choppers. | ● | — | — |
| CA-SDi-04733 | Recorded by M. Waters, 1973. Updated by B. Smith of BFSA, 1996. | Prehistoric – Lithic scatter consisting of flakes and tools. | ● | — | — |
| CA-SDi-04734 | Recorded by M. Waters, 1973. Updated by B. Smith of BFSA, 1996. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-04735 | Recorded by M. Waters, 1973. Updated by B. Smith of BFSA, 1996. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-04736 | Recorded by M. Waters, 1973. | Prehistoric – San Dieguito #2 site. | ● | — | — |
| CA-SDi-04737 | Recorded by M. Waters, 1973. Updated by C. Kyle, R. Phillips, S. Briggs, and L. Tift of Gallegos and Associates, 1993. | Prehistoric – Originally recorded as consisting of tools, flakes and flaked tools. The 1993 update mentions the presence of some historic debris. | ● | ● | — |
| CA-SDi-05352 | Recorded by R. May of San Diego State University (SDSU), 1977. Updated by Rader and Mealey of ERCE, 1991. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-07195 | Recorded by S. Day and N. Rhodes, 1979. Updated by BFSA, 2005. | Prehistoric – Lithic scatter. In 2005, BFSA collected surface artifacts and completed 10 STPs. They concluded that the site was not an important cultural resource according to criteria listed in CEQA, Section 15064.5. | — | ● | — |
| CA-SDi-07212 | Recorded by S. Day and R. Hunter, 1979. Updated by N. Clark of CSRI, 1981; R. Collett of RECON, 1989; C. Kyle, R. Phillips, S. Briggs, and L. Tift of Gallegos and Associates, 1993; N. Blotner of HDRe2M, 2010; and S. Clowery of HDR, Inc., 2011. | Prehistoric – Lithic scatter. First recorded in 1979 as a disturbed lithic scatter, the site has been tested and collected over the years. | — | ● | — |
| CA-SDi-07213 | Recorded by J. Thesken, 1979. | Prehistoric – Lithic scatter. | — | ● | — |
| CA-SDi-07214 | Recorded by J. Thesken, 1979. | Prehistoric – Lithic scatter. | — | — | ● |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-08074 | Recorded by R. Carrico of WESTEC, 1974. Updated by BFSA, 2006. | Prehistoric – Originally recorded as a lithic scatter with possible hearths. The site was not relocated in 2006, but an area near the originally reported location was tested for significance. BFSA executed a surface collection, excavated 11 STPs, and five shovel scrapes. No artifacts were recovered during the testing program. BFSA concluded that the testing program exhausted the research potential of the site and that it was not an important cultural resource. | — | — | ● |
| CA-SDi-08075 | Recorded by R. Carrico of WESTEC, 1974. Updated by BFSA, 2006. | Prehistoric – Initially recorded as a sparse lithic scatter, the site was relocated and tested by BFSA in 2006. Testing at the site consisted of a surface collection, excavation of 11 STPs, and five shovel scrapes. BFSA concluded that the testing program exhausted the research potential of the site and that it was not an important cultural resource. | — | ● | — |
| CA-SDi-08076 | Recorded by R. Carrico of WESTEC, 1974. Updated by N. Clark of CSRI, 1981; L. Haslouer and D. Kay of SAIC, 1996; and C. Cotterman of Tetra Tech, 2000. | Prehistoric – Originally recorded as a sparse lithic scatter. In 1981, N. Clark combined the site with CA-SDi-08079 to create a single large site measuring 600 meters by 100 meters, and containing an abundance of lithic tools, cores, flakes and debitage. In 1996, the boundaries of the site were increased to measure 770 meters by 155 meters due to the presence of additional observable artifacts. | — | ● | — |
| CA-SDi-08077 | Recorded by R. Carrico of WESTEC, 1974. Updated by BFSA, 2006. | Prehistoric – Originally recorded as a sparse lithic scatter, BFSA relocated the site in 2006 and completed a surface collection, 11 STPs, 6 shovel scrapes, and a test unit. The results of the testing indicated that a very shallow subsurface deposit is present; however, it appeared to be isolated and lacked research potential. For this reason, BFSA did not consider the site to be an important cultural resource. | — | ● | — |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-08078 | Recorded by R. Carrico of WESTEC, 1974. Updated by BFSA, 2006. | Prehistoric – Originally recorded as a moderate lithic scatter, the site was tested in 2006 and deemed not important. | — | ● | — |
| CA-SDi-08079 | Recorded by R. Carrico of WESTEC, 1974. Updated by N. Clark of CSRI, 1981. | Prehistoric – Originally recorded as a substantial lithic scatter, the site was tested in 1981and considered highly significant as a San Dieguito site with depth. | — | ● | — |
| CA-SDi-08080 | Recorded by R. Carrico of WESTEC, 1974. | Prehistoric – An extensive lithic scatter. | — | ● | — |
| CA-SDi-08081 | Recorded by R. Carrico of WESTEC; 1974. Updated by Huey et al of ERCE, 1991; Robbins-Wade of Affinis, 1996; and Rosenberg of BFSA, 2008. | Prehistoric – An extensive lithic scatter, midden, shell midden | — | ● | — |
| CA-SDi-08082 | Recorded by R. Carrico of WESTEC, 1974 | Prehistoric – A moderate lithic scatter. | — | ● | — |
| CA-SDi-08652 | Recorded by N. Clark of CSRI, 1981. Updated by N. Clark of CSRI, 1981 and L. Kay of SAIC, 1996. | Prehistoric – A moderate to light density lithic scatter. Originally recorded as measuring 200 meters by 50 meters, the site was increased to measure 150 meters by 260 meters in 1996 due to the discovery of additional artifacts. | — | ● | — |
| CA-SDi-09656 | Recorded by A. Noah of the County of San Diego, 1983. | Prehistoric – A quarry site for metavolcanic stone. | ● | — | — |
| CA-SDi-09970 | Recorded by J. Thesken, 1982. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-09971 | Recorded by J. Thesken, 1982. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-09975 | Recorded by Kidder, Miller, and Seymour of SDSU, 1984. | Prehistoric – A quarry site. | ● | — | — |
| CA-SDi-09977 | Recorded by R. Collett of RECON, 1989. | Prehistoric – A quarry site. | ● | — | — |
| CA-SDi-10068 | Recorder unknown. | Site renumbered to CA-SDi-10296. | ● | ● | — |
| CA-SDi-10069 | Recorder unknown. | Unknown Site Type – Only a map with a plotted site was filed with the SCIC. | — | ● | — |
| CA-SDi-10070 | Recorder unknown. | Unknown Site Type – Only a map with a plotted site was filed with the SCIC. | — | ● | — |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-10071 | Recorder unknown. | Unknown Site Type – Only a map with a plotted site was filed with the SCIC. | ● | — | — |
| CA-SDi-10081 | Original recorder unknown. Updated by G. Gross of Affinis, 1993. | Unknown Site Type – Only a map with a plotted site was filed with the SCIC. The reported location of the site was investigated by Affinis in 1993 and no evidence of cultural activity was observed. | ● | ● | — |
| CA-SDi-10082 | Original recorder unknown. Updated by D. James, B. Campbell, and T. Cooley of Ogden Environmental, 1993 and H. Miljour of SRI, 2011. | Prehistoric – Lithic scatter. | — | ● | — |
| CA-SDi-10295 | Recorded by C. McGowan, 1980. Updated by H. Price, and L. Christenson of WESTEC, 1986. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-10296 | Original recorder unknown. Updated by M. Waters of the San Diego Museum of Man, 1972 and S. Gunderman of ASM Affiliates, 2010. | Prehistoric – A lithic and groundstone scatter that was surface collected and curated at the San Diego Museum of Man in 1972. The site was subsequently tested by Gallegos and Associates in 2000 and was reclassified as a temporary camp. It was determined not significant according to CEQA. Site was tested and recommended as not significant but monitoring was recommended due to original recordation as habitation site (Gallegos 2000). | ● | — | — |
| CA-SDi-10298 | Recorded by B. Smith, 1984. Updated by BFSA, 2005. | Prehistoric – Originally recorded as a scatter of surface artifacts, the site was tested by BFSA in 2005. Through the testing work, the site was determined to have subsurface deposits and possibly buried features. The site was deemed an important resource according to criteria listed in CEQA, Section 15064.5. | — | ● | — |
| CA-SDi-10299 | Recorded by B. Smith, 1984. Updated by M. Robbins-Wade, 2006. | Prehistoric – When originally recorded, the site was regarded as potentially very significant and contained scrapers, planes, blade fragments, and a possible midden. The southern portion of the site was tested in 2006 and found to be not significant. | — | — | ● |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-10666 | Recorded by C. Kyle of WESTEC, 1986. Updated by C. Kyle of WESTEC, 1987. | Prehistoric – Quarry site. | — | — | ● |
| CA-SDi-10667 | Recorded by C. Kyle of WESTEC, 1986. Updated by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Sparse lithic scatter. | — | ● | — |
| CA-SDi-10862 | Recorded by S. Hector, A. Noah, S. Van Wormer, P. Haynal, M. Robbins-Wade, and E. Baker of RECON, 1987. | Historic age – This site contains two loci consisting of four structure pads, a reservoir, a large trash scatter, and a dump. The portion of the site referred to as the Otay Homestead Site (Locus A) was tested with one unit to a depth of 30 centimeters. No other remarks or recommendations are provided in relation to the test unit. | — | ● | — |
| CA-SDi-10874 | Recorded by C. Kyle of WESTEC, 1987. | Prehistoric – Quarry site. | — | — | ● |
| CA-SDi-10875 | Recorded by C. Kyle of WESTEC, 1987. Updated by B. Smith of BFSA, 1996 and N. Blottner of HDRe2M, 2010. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-11335 | Recorded by J. Schaefer, 1989. | Historic age – Lower Otay Lakes Filtration Plant built between 1913 and 1915. | ● | — | — |
| CA-SDi-11360 | Recorded by F. Ritz of RECON, 1989. | Dual-component (Historic age and Prehistoric) – This site consists of a historic period rock wall, as well as a prehistoric rock ring and flakes. | ● | — | — |
| CA-SDi-11380 | Recorded by F. Ritz of RECON, 1989. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-11385 | Recorded by R. Collett of RECON, 1989. Updated by N. Blotner of HDRe2M, 2010. | Historic age – Originally recorded as the Brownfield bombing range, the site was not relocated during a 2010 survey. | ● | — | — |
| CA-SDi-11794 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. | Prehistoric – Lithic scatter. | — | — | ● |
| CA-SDi-11795 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. | Prehistoric – Lithic scatter. | — | — | ● |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-11796 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. Updated by K. Swope of SRI, 2011. | Dual-component (Historic age and Prehistoric) – The site consists of a historic age well and checkdams, as well as a prehistoric lithic scatter. The lithic scatter was not relocated during the 2011 survey. | — | ● | — |
| CA-SDi-11797 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. Updated by D. Huey and S. Campbell of ERCE, 1991 and K. Swope of SRI, 2011. | Dual-component (Historic age and Prehistoric) – The site consists of a poured concrete foundation, fence post, Peruvian Pepper trees, Olive trees, a rock pile, and a prehistoric lithic scatter. | — | ● | — |
| CA-SDi-11798 | Recorded by Gross, Robbins-Wade, Smith, and Jacobson of Affinis, 1989. Updated by BFSA, 2006. | Prehistoric – Lithic scatter. The site was not relocated during the 2006 survey, but testing was conducted at the recorded location. The results of the testing exhausted the data potential for the site and BFSA stated that the site was not considered an important cultural resource. | — | — | ● |
| CA-SDi-11799 | Recorded by Gross, Smith, and Jacobson of Affinis 1989. Updated by BFSA, 2006 and M. Robbins-Wade 2006. | Prehistoric and Historic – Lithic scatter. D.O. McCarthy homestead. | — | ● | — |
| CA-SDi-11800 | Recorded by Gross, Smith, and Jacobson of Affinis, 1989. Update by M. Robbins-Wade of Affinis, 2006. | Prehistoric – Lithic scatter. The site was tested in 2006 and found to be not significant. | — | — | ● |
| CA-SDi-11802 | Recorded by Gross, Smith, and Jacobson of Affinis, 1989. Update by M. Robbins-Wade of Affinis, 2006. | Historic age – Initially recorded as construction materials and household debris at the mapped location of two structures. The site was trenched in 2005 and is known as the Peter Beckley homestead. Found to be not significant. | — | — | ● |
| CA-SDi-12256 | Recorded by A. Schilz of ERC Environmental, 1989. Updated by D. Huey and S. Campbell of ERCE, 1991; C. Cotterman of Tetra Tech, 2000; and S. Rosenberg of BFSA, 2008. | Prehistoric – A resource extraction and processing/temporary habitation site. It has been tested several times, and the results of the 2008 BFSA study indicated that the site was not an important resource. | ● | — | — |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-12337 | Recorded by M. Rosen of Caltrans, 1989. Updated by G. Gross of Affinis, 1993; C. Kyle, S. Ghabhlain, and L. Tift of Gallegos and Associates, 1995; M. Robbins-Wade of Affinis, 2002 and 2006; M. Robbins-Wade, M. Sivba, G. Kitchen of Affinis, 2007; and N. Blotner of HDRe2M, 2010. | Prehistoric – A very large lithic scatter covering 700+ acres and containing several areas originally recorded as separate sites. In 2007, Affinis recommended the resource as important according to County guidelines; however, the research potential may have been exhausted by the various testing programs conducted over the years. | ● | — | — |
| CA-SDi-12700 | Recorded by H. Price of WESTEC, 1986. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12701 | Recorded by D. Gallegos of WESTEC, 1986. Updated by D. James of Ogden Environmental, 1993 and K. Swope of SRI, 2011. | Dual-component (Historic age and Prehistoric) – The prehistoric component of this site consists of three activity areas and a scatter of artifacts. The historic component consists of a concrete pad and Peruvian Pepper trees. | — | ● | — |
| CA-SDi-12702 | Recorded by H. Price of WESTEC, 1986. | Prehistoric – Lithic scatter. | — | — | ● |
| CA-SDi-12703 | Recorded by H. Price and L. Christenson of WESTEC, 1986. | Prehistoric – Lithic scatter. | — | — | ● |
| CA-SDi-12704 | Recorded by H. Price and D. Gallegos of WESTEC, 1986. Updated by D. Huey and S. Campbell of ERCE, 1991; D. James and Campbell, Briggs, and T. Cooley of Ogden Environmental, 1993; and H. Miljour, S. Krenkau, and D. Gallegos of SRI, 2011. | Prehistoric – A large site with several features and a dense lithic scatter. Human remains were also found on site. | ● | ● | — |
| CA-SDi-12705 | Recorded by D. Gallegos and H. Price of WESTEC, 1986. Updated by D. James and Campbell, Briggs, and T. Cooley of Ogden Environmental, 1993 and H. Miljour of SRI, 2011. | Prehistoric – A lithic and groundstone scatter. | — | ● | — |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-12707 | Recorded by WESTEC, 1986. Updated by D. Saunders of Brian F. Mooney Associates, 1993 and BFSA, 2005. | Prehistoric – A dense lithic scatter with an intact subsurface deposit. Habitation debris found on the site consists of groundstone tools, ceramics, and faunal remains. A large amount of fire-affected rock was recovered from test units. BFSA recommended the site as an important cultural resource. | ● | ● | — |
| CA-SDi-12708 | Recorded by Price, Pigniolo, and Gallegos of WESTEC, 1986. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12709 | Recorded by Price, Pigniolo, and Gallegos of WESTEC, 1986. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12710 | Recorded by Price, Pigniolo, and Gallegos of WESTEC, 1986. Updated by D. Saunders of Brian F. Mooney and Associates, 1993 and BFSA, 2005. | Prehistoric – Large habitation site with bedrock milling features and a large lithic scatter. Testing conducted by BFSA in 2005 revealed a subsurface component and that the site is significant pursuant to CEQA, Section 15064.5. | ● | — | — |
| CA-SDi-12711 | Recorded by Price, Pigniolo, and Gallegos of WESTEC, 1986. Updated by H. Miljour of SRI, 2011. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12714 | Recorded by D. Gallegos of WESTEC, 1986. Updated by D. James, Campbell, Briggs, and T. Cooley of Ogden Environmental, 1993 and H. Miljour of SRI, 2011. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12715 | Recorded by D. Gallegos of WESTEC, 1986. Updated by H. Miljour of SRI, 2011. | Prehistoric – A quarry and lithic scatter. | ● | — | — |
| CA-SDi-12716 | Recorded by H. Price of WESTEC, 1986. Updated by James, Campbell, Briggs, and T. Cooley of Ogden Environmental, 1993 and K. Swope, T. Terry, and H. Miljour of SRI, 2011. | Dual-component (Historic age and Prehistoric) – The prehistoric component of the site consists of a bedrock milling slick and lithic scatter. The historic component consists of a dugout of stone construction. | ● | — | — |
| CA-SDi-12718 | Recorded by D. Gallegos and H. Price of WESTEC, 1986. Updated by BFSA, 1999. | Prehistoric – A quarry site, which was tested and found ineligible for inclusion in the NRHP. | ● | — | — |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-12720 | Recorded by D. Gallegos and H. Price of WESTEC, 1986. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-12721 | Recorded by D. Gallegos of WESTEC, 1986. Updated by D. James, Campbell, Briggs, and T. Cooley of Ogden Environmental, 1993. | Prehistoric – Lithic scatter and a bedrock milling feature. | — | ● | — |
| CA-SDi-12722 | Recorded by H. Price of WESTEC, 1986. Updated by H. Miljour of SRI, 2011. | Prehistoric – A lithic scatter and a thermal feature. | ● | — | — |
| CA-SDi-12723 | Recorded by D. Gallegos of WESTEC, 1986. Updated by H. Miljour of SRI, 2011. | Prehistoric – A bedrock milling feature. | ● | — | — |
| CA-SDi-12730 | Recorded by C. Kyle and E. Baker of Gallegos and Associates, 1992. | Prehistoric – A temporary campsite. | ● | — | — |
| CA-SDi-12872 | Recorded by D. Huey and S. Campbell of ERCE, 1991. Updated by N. Blotner of HDRe2M, 2010 and S. Gunderman of ASM Affiliates, 2010. | Prehistoric – A habitation site. The resource was tested by Gallegos and Associates in 2002 and was found no to be not significant according to CEQA. | ● | — | — |
| CA-SDi-12873 | Recorded by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Lithic and groundstone scatter. | ● | — | — |
| CA-SDi-12874 | Recorded by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Lithic and groundstone scatter. | ● | — | — |
| CA-SDi-12875 | Recorded by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Lithic and groundstone scatter. | ● | — | — |
| CA-SDi-12889 | Recorded by D. Huey and S. Campbell of ERCE, 1991. | Prehistoric – Lithic scatter. | — | ● | ● |
| CA-SDi-13224 | Recorded by S. Briggs, James, Campbell and Cooley, 1993. Updated by H. Miljour of SRI, 2011. | Prehistoric – Lithic scatter. | — | ● | — |
| CA-SDi-13225 | Recorded by S. Briggs, James, Campbell and Cooley, 1993. | Prehistoric – A bedrock milling site. | — | — | ● |
| CA-SDi-13452 | Recorded by C. Kyle and L. Tift of Gallegos and Associates, 1993. | Prehistoric – A lithic scatter and one portable stone mortar. | — | — | ● |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-13457 | Recorded by C. Kyle, R. Phillips, S. Briggs and L. Tift of Gallegos and Associates, 1993. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-13458 | Recorded by C. Kyle, R. Phillips, S. Briggs and L. Tift of Gallegos and Associates, 1993. Updated by T. Stropes of BFSA, 2010. | Dual-component (Historic age and Prehistoric) – The 1993 site record lists the resource as a historic trash dump. The 2010 update makes no mention of the historic component and lists the site as a lithic scatter. | ● | — | — |
| CA-SDi-14435 | Recorded by F. Largent, R. Schultz and M. Robbins-Wade of Affinis, 1997. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-14725 | Recorded by L. Hauslouer and D. Kay of SAIC, 1996. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-14726 | Recorded by L. Hauslouer and D. Kay of SAIC, 1996. Updated by J. Buysse, M. Waters and D. Pemberton of Geo-Marine, 1998. | Prehistoric – Lithic scatter. SHPO found the site ineligible for inclusion in the CRHR in 1998. | — | — | ● |
| CA-SDi-14727 | Recorded by L. Hauslouer and D. Kay of SAIC, 1996. Updated by J. Buysse, M. Waters, and D. Pemberton of Geo-Marine, 1998. | Prehistoric – Lithic scatter. SHPO found the site ineligible for inclusion in the CRHR in 1998. | — | — | ● |
| CA-SDi-15040 | Recorded by J. Buysse, M. Waters and D. Pemberton of Geo-Marine, 1998. Updated by K. Swope and T. Terry of SRI, 2011. | Historic age – A trash scatter. | — | ● | — |
| CA-SDi-15041 | Recorded by J. Buysse, M. Waters and D. Pemberton of Geo-Marine, 1998. | Prehistoric – Lithic scatter. The 1998 site record indicates that the site is potentially eligible for inclusion in the NRHP. | — | — | ● |
| CA-SDi-15062 | Recorded by N. Harris and L. Tift of Gallegos and Associates, 1997. | Prehistoric – Lithic scatter. | — | ● | — |
| CA-SDi-15063 | Recorded by N. Harris and L. Tift of Gallegos and Associates, 1997. | Prehistoric – Lithic scatter. | ● | — | — |
| CA-SDi-15875 | Recorded by S. Briggs and D. James of James and Briggs Archaeological Services, 2000. Updated by M. Robbins-Wade, 2006. | Prehistoric – Lithic scatter. According to the 2006 update, the site was tested and is not considered a significant resource. | — | — | ● |

**Table 2 Known Cultural Resources Located within One Mile of the APE**

| Site Number | Recorder Name and Date | Resource Description | Within ~1-mile to 0.5-mile Radius | Within ~0.5-mile to 0.25-mile Radius | Within ~0.25-mile Radius |
|---|---|---|---|---|---|
| CA-SDi-16450 | Recorded by Gallegos and Associates, 1998. | Dual-component (Historic age and Prehistoric) – The prehistoric component consists of bedrock milling features and lithics. The historic component consists of a concrete water tank. | ● | — | — |
| CA-SDi-16788 | Recorded by M. Guerrero, L. Piek and L. Tift of Gallegos and Associates, 2003. Updated by Gallegos and Associates, 2004. | Prehistoric – A quarry site. The site was tested in 2004 and found to be not significant under CEQA and County of San Diego guidelines. The resource is not eligible for inclusion in the CRHR or NRHP. | — | ● | — |
| CA-SDi-17432 | Recorded by J. Clifford of BFSA, 2005. Updated by H. Miljour of SRI, 2011. | Prehistoric – A lithic scatter and cluster of rocks. | — | — | ● |

### 7.1.2 NAHC Record Search Results

On June 28, 2013, Atkins sent a letter to the NAHC to determine whether any sacred sites were listed in the SLF for the APE and the general vicinity. The response from the NAHC was received on July 2, 2013, and indicated that no Native American resources were known within the APE. However, the response did note that there are Native American sacred sites in adjacent USGS sections (not within the APE for the proposed project). Further, the SLF is not exhaustive and the NAHC provided a listing of Native American contacts that might have knowledge about the APE, and might have knowledge about any sacred sites or resources not listed in the SLF. For this reason, letters were sent to each of the listed tribal contacts on July 23, 2013. Responses were received that indicate the APE and vicinity has a high sensitivity for Native American resources. Specifically, a letter was received on September 23, 2013 from Frank Brown, THPO for the Viejas Band of Kumeyaay Indians, outlining the presence of villages and sacred sites. Mr. Brown noted that the APE is located within or near an area containing five named village sites, including Uu-Tai, Jaurial, Jan-at, Chiap, Aly-Suhui and that the project area contains many sites considered sacred to the Kumeyaay people. Locations of these sites are kept confidential by the NAHC and by tribal governments and are not typically disclosed unless a project directly impacts them. Additional coordination between the U.S. Department of State and the Native American Bands will be completed as the project progresses.

Additional letters were sent out on July 7, 2014 to inform the tribes of revisions to the alternative alignments. The Viejas tribe responded in a letter sent by Ms. Julie Hagen on July 28, 2014 requesting more information on the project and a site visit. The results of the information scoping process completed to date are included in Appendix C.

## 7.2 Intensive Pedestrian Survey Results

### 7.2.1 Site Conditions During Pedestrian Survey

On September 26 and 27, 2013, Atkins archaeologists completed a pedestrian survey of the APE. Additional pedestrian surveys were conducted by Atkins archaeologists on April 15, 2013, October 16, 2014 and January 15, 2015. All portions of the APE not currently obscured by development were examined using transects with 15-meter spacing. In the vicinity of previously recorded resources, areas were further scrutinized to allow for additional visual examination of the ground surface. The surface visibility ranged from 0 to 100 percent, depending on the presence of vegetation. The majority of the APE had less than 10 percent surface visibility due to densely matted nonnative grassland. All areas that had moderate to excellent visibility (75 to 100 percent) were intensely searched for signs of cultural resources.

The undeveloped southern portions of Alternative Alignments 1, 2 and 3 are characterized by minimally developed lands. Observable soils were disturbed due to dirt roads, past agricultural activities, and recent disking in limited areas (see photos in Appendix B). Surface visibility in this area ranged from 0 to 100 percent, depending on the presence of vegetation. In general, all non-disturbed areas surveyed exhibited approximately 0 percent visibility due to the presence of densely matted nonnative grassland.

In the northern portion of the alignments, soils in the vicinity of Roll Reservoir and within the surrounding potential disinfection facility sites exhibited a variety of disturbances, including dirt roads and the installation and maintenance of District water control features. Surface visibility in this area ranged from 0 to 100 percent, depending on the presence of development and vegetation (see photos in Appendix B).

### 7.2.2 Resources Observed During the Pedestrian Survey

During the pedestrian survey, a total of eight previously recorded resources were revisited and reassessed and two isolated finds were detected. Due to the presence of pavement/concrete and ornamental landscaping within the developed portions of the APE, including Alta Road and Paseo de la Fuente, soil disturbances resulting from development, and negligible surface visibility in areas containing dense vegetation, the majority of the sites were not observed at the surface. These resources, a summary of past research, and existing conditions within the APE are summarized in Table 3 below.

Two prehistoric isolated finds were also encountered and recorded during the survey (Isolate 02 and Isolate 03). Isolate 02 is a small piece of metavolcanic shatter and Isolate 03 is a metavolcanic core with approximately 10 flake scars. Isolates 02 and 03 were recorded as a single isolated occurrence (Isolate 02/Isolate 03) and one DPR 523 Form was prepared (see Appendix D). These resources, a summary of past research, and existing conditions within the APE are summarized in Table 3 below. Please note that a third isolated find (Isolate 01) was encountered during the initial pedestrian survey in an area that is no longer within the APE. Information on Isolate 01 can be found in Appendix F.

## Table 3 Updated Site Conditions for Known Cultural Resources within the APE

| Site Number | Previous Research | Existing Site Conditions within the APE | Photograph(s) (Appendix B) |
|---|---|---|---|
| CA-SDi-07215 | Prehistoric – A lithic scatter consisting of two loci (CA-SDi-07215 [Locus A] and CA-SDi-07215 [Locus B]). This resource has been subject to a variety of testing and mitigation efforts. As a result of these efforts, CA-SDi-07215 [Locus B] has been found significant and all other portions of the site have been tested and found to be not significant. | This site is currently obscured by pavement/concrete, ornamental landscaping, and nonnative vegetation associated with Alta Road and Paseo de la Fuente. | 4 and 10 |
| CA-SDi-07218 | Prehistoric – An isolated find incorporated into CA-SDi-10668. | See CA-SDi-10668. | See CA-SDi-10668 below. |
| CA-SDi-08654 | Dual-component (Historic age and Prehistoric) –The historic age component consists of ranch buildings (Kuebler Ranch) and the prehistoric component is a village site exhibiting a dense scatter of lithic and milling implements. In 1983, the site was recommended as potentially eligible for listing on the NRHP (CSRI 1983). Portions of this site have been tested and a small area in the vicinity of the ranch buildings was investigated via a data recovery program. As a result of these efforts, the area nearer the ranch buildings has been determined mitigated or disturbed and not significant, a small area was found to be significant, and the remainder of the site has not been tested for a subsurface component. | This site is currently obscured by pavement/concrete and ornamental landscaping associated with Alta Road and could not be relocated in areas exhibiting observable soils. These findings may have been due to soil disturbances, as the area containing the potential disinfection facility site to the east of the intersection of Alta Road and Donovan State Prison Road appears to have been previously graded and leveled. | 3 and 5 |
| CA-SDi-10297 | Dual-component (Historic age and Prehistoric) – The prehistoric component is comprised of dense lithic artifact concentrations with intervening sparse scatters and the historic age component is a cistern. The site was identified as potentially eligible for the CRHR and the NRHP in 2000 (Gallegos and Associates 2000). Since 2000, this site has been tested and monitored during construction activities. As a result, the historic age component was deemed an isolated occurrence and determined to be not important pursuant to CEQA. The prehistoric component was determined an important resource. Thus, the prehistoric component may be considered potentially eligible for listing in the CRHR and the NRHP. | This site is currently obscured by pavement/concrete and ornamental landscaping associated with Paseo de la Fuente. | 6 |
| CA-SDi-10627 | Prehistoric – A lithic scatter. This site was tested in 1986 with two 1x1 meter units, both of which had negative results for cultural resources. This site could not be relocated in 2010. | This site is currently obscured by pavement/concrete and ornamental landscaping associated with Alta Road. | 4 |

## Table 3 Updated Site Conditions for Known Cultural Resources within the APE

| Site Number | Previous Research | Existing Site Conditions within the APE | Photograph(s) (Appendix B) |
|---|---|---|---|
| CA-SDi-10668 | Dual-component (Historic age and Prehistoric) – The prehistoric component is a quarry site with associated lithic scatters and flaking stations. The historic age component consists of a cistern, metal pipe, and glass fragments dating to circa 1930.<br>The historic component of this resource was identified as eligible for the NRHP in 1988 (Gallegos et al 1988), while the prehistoric component was not. Mitigation was recommended for the historic portion of the resource. The site was subjected to test excavations and cultural resources monitoring during construction of the detention facility (Phillips and Van Wormer 1991).<br>In 2010, the historic age resources could not be relocated and the site was described as being mostly destroyed. The northeast portion of the site is currently occupied by the San Diego RFTC and the County of San Diego George F. Bailey Detention Facility. Nonetheless, this site has not been evaluated. | This site could not be relocated within the APE during the survey. These findings may have been due to soil disturbances and the presence of vegetation, resulting in decreased surface visibility. | 14 |
| CA-SDi-11793 | Prehistoric – A sparse lithic scatter that has been tested for subsurface deposits. As a result of testing efforts, the site was found to be not significant/not important. | This site could not be relocated. The lack of observable artifact content was likely due to negligible surface visibility as a result of dense nonnative grassland in all areas not currently occupied by dirt roads. | 15 |
| CA-SDi-12877 | Prehistoric – A light density lithic scatter that was tested in 2000. As a result of the testing efforts, the site was determined to lack a subsurface component. In addition, the site was recommended as not significant, ineligible for the CRHR and ineligible for the NRHP (Gallegos and Associates 2000).<br>In 2008, SHPO provided concurrence and confirmed the ineligibility of this site for the NRHP (Rosen 2008). | Two pieces of debitage were noted within the Proposed Alternative 1 Alignment, however no other signs of the site were observed in Proposed Alternative Alignments 2 or 3. These findings were likely due to the presence of dense nonnative grassland and resultant negligible surface visibility. | 16 |
| Isolate 02/ Isolate 03 | Not Applicable. | Two isolated artifacts recorded as Isolate 02/Isolate 03. Isolate 02 is piece of metavolcanic shatter measuring 4.5 centimeters (cm) by 3 cm by 1.5 cm and is located at 0509261 mE // 3602494 mN (NAD 83). Isolate 03 is a metavolcanic core with approximately 10 flake scars. It measures 7 cm by 5 cm by 4.5 cm and is located at 0509281 mE // 3602356 mN (NAD 83). Isolate 02/Isolate 03 was detected within Alternatives 2 and 3 and where the alignment turns to the west from the northwest-southeast trending SDG&E transmission line. | 17 and 18 |

# 8.0 Recommendations

Based on the results of the records searches and the pedestrian survey, the proposed project has the potential to cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5, and to result in adverse effects to Historic Properties pursuant to Section 106 of the NHPA, as amended. These impacts could result from implementation of Alternatives 1, 2, or 3. For this reason, additional work is recommended to determine the potential for the proposed project to result in significant impacts to historical resources and/or adverse effects to Historic Properties. This additional work would consist of subsurface testing to determine the presence or absence of currently buried and obscured intact cultural deposits which may yield information important to history or prehistory. If detected and determined to be potentially significant, then avoidance is the preferred treatment. If avoidance is infeasible, then additional efforts may be required, including, but not limited to, data recovery.

CA-SDi-07215 [Locus A], CA-SDi-11793, and CA-SDi-12877 have been evaluated and determined not to be significant resources under CEQA and Section 106. It is possible that the trenching within Alta Road to construct the pipeline would reach native soils that could contain artifacts or features from these sites. Such discoveries could be substantive enough to change the NRHP/CRHR recommendations for the sites and their disturbance could impact the site. Any impacted site(s) would require Phase II testing and evaluation to determine if the site(s) meet(s) the criteria of significant resources under CEQA and Section 106. If these criteria are met then Phase III data recovery excavations would be required if the site(s) cannot be avoided. Implementation of a testing and evaluation strategy prior to construction is not recommended for the portion of these sites under Alta Road because it would not be able to reach native soils without having to close off Alta Road and dig up the existing pavement for an extended period of time. Atkins recommends archaeological and Native American monitoring for sites CA-SDi-07215 [Locus A], CA-SDi-11793, and CA-SDi-12877 during construction with provisions that a subsample of trenching spoils piles at the site be screened for archaeological materials. Prior to construction, a provisional testing and evaluation plan shall be prepared that outlines suitable methods that would be followed in the event that archaeological deposits are discovered. Should any trace of archaeological deposits or features be encountered, mechanical work within the site boundary shall stop while the District is notified and the testing and evaluation plan is implemented. It is likely that machinery would be required to remove overburden from above the archaeological deposits.

CA-SDi-08654 has not been evaluated for significance under CEQA and Section 106 and may be impacted by the proposed project. This site is located under the paved portion of Alta Road where the pipeline would be placed. A disinfection facility is also proposed within the site boundary east of Alta Road. The proposed project would not impact native soils adjacent to the paved portion of Alta Road because the construction of the pipeline would be solely contained within the existing paved roadway. The maximum vertical impacts associated with the project would average approximately 10 feet of depth below current ground surface, with depths of up to 25 feet below current ground surface possible in some areas. It is possible that the trenching within Alta Road to construct the pipeline would reach native soils that could contain artifacts or features from the site, thus potentially impacting the site. Construction activities related to the disinfection facility would also reach native soils and potentially impact the site. Any impacted sites would require Phase II testing and evaluation to determine if the sites meet the criteria of significant resources under CEQA and Section 106. If these criteria are met then Phase III data recovery excavations would be required if the sites cannot be avoided. Implementation of a testing and evaluation strategy prior to construction is not recommended for the portion of the site under Alta Road because it would not be able to reach native soils without having to close off Alta Road and dig up the existing

pavement for an extended period of time. In addition, testing is recommended within the site boundaries adjacent to Alta Road that may be affected by the disinfection facility because the proposed project would impact this area. Testing is not recommended for areas of the site not affected by the project since the testing would cause more disturbance to the sites than the project itself. Atkins recommends archaeological and Native American monitoring for site CA-SDi-08654 during construction with provisions that a subsample of trenching spoils piles at the site be screened for archaeological materials. Prior to construction a provisional testing and evaluation plan shall be prepared that outlines suitable methods that would be taken in the event that archaeological deposits are discovered. Should any trace of archaeological deposits or features be encountered, mechanical work within the site boundary shall stop while the District is notified and the testing and evaluation plan is implemented. It is likely that machinery would be required to remove overburden from above the archaeological deposits.

CA-SDi-10297 has been evaluated under CEQA and Section 106. A portion of the site has been found to be a significant resource, however the majority of the site, including the portion that would be impacted by the proposed project, has been found to not be significant. It is possible that the trenching within Alta Road to construct the pipeline would reach native soils that could contain artifacts or features from the site. Such discoveries could be substantive enough to change the NRHP/CRHR recommendations for the site and disturbance could impact the site. Any impacted sites would require Phase II testing and evaluation to determine if the site meets the criteria of significant resources under CEQA and Section 106. If these criteria are met then Phase III data recovery excavations would be required if the sites cannot be avoided. Implementation of a testing and evaluation strategy prior to construction is not recommended for the portion of the site under Alta Road because it would not be able to reach native soils without having to close off Alta Road and dig up the existing pavement for an extended period of time. Atkins recommends archaeological and Native American monitoring for site CA-SDi-10297 during construction with provisions that a subsample of trenching spoils piles at the site be screened for archaeological materials. Prior to construction a provisional testing and evaluation plan shall be prepared that outlines suitable methods that would be taken in the event that archaeological deposits are discovered. Should any trace of archaeological deposits or features be encountered, mechanical work within the site boundary shall stop while the District is notified and the testing and evaluation plan is implemented. It is likely that machinery would be required to remove overburden from above the archaeological deposits.

CA-SDi-10627 has been evaluated under CEQA and Section 106 and found to be not significant. It is possible that the trenching within Alta Road to construct the pipeline would reach native soils that could contain artifacts or features from the site. Such discoveries could be substantive enough to change the NRHP/CRHR recommendations for the site and disturbance could impact the site. Any impacted sites would require Phase II testing and evaluation to determine if the sites meet the criteria of significant resources under CEQA and Section 106. If these criteria are met then Phase III data recovery excavations would be required if the sites cannot be avoided. Implementation of a testing and evaluation strategy prior to construction is not recommended for the portion of the site under Alta Road because it would not be able to reach native soils without having to close off Alta Road and dig up the existing pavement for an extended period of time. Atkins recommends archaeological and Native American monitoring for site CA-SDi-10627 during construction with provisions that a subsample of trenching spoils piles at the site be screened for archaeological materials. Prior to construction a provisional testing and evaluation plan shall be prepared that outlines suitable methods that would be taken in the event that archaeological deposits are discovered. Should any trace of archaeological deposits or features be encountered, mechanical work within the site boundary shall stop while the District is notified and the testing and evaluation plan is implemented. It is likely that machinery would be required to remove overburden from above the archaeological deposits.

CA-SDI-10668 and CA-SDi-07218 are within the footprint of potential disinfection facility sites. It is recommended that these facilities be relocated outside of the boundaries of the respective archaeological sites or another suitable facility location be selected instead as there is a likelihood that subsurface artifact concentrations or features may be encountered that could change the NRHP/CRHR recommendations for the sites. If relocation of the facilities is not possible, archaeological monitoring will be required for any disturbance of native soils around CA-SDI-10668 and CA-SDi-07218.

Isolate 02/Isolate 03 is located within the Alternative 3 portion of the project APE. As an isolate, this resource is considered to be not significant; however it is an indicator of the archaeological sensitivity of the area. Due to the demonstrated high potential for buried cultural deposits to occur in the project area, an archaeological and Native American monitoring plan is recommended for the entire project length in any areas containing native soils. This includes both the pipeline alignment corridors and the locations of the additional facilities (disinfection facility, potential pump station, outfall structure and meter station).

The development and implementation of any testing program and monitoring plan must be completed in coordination with the District as the CEQA lead agency and the DOS as the NEPA lead agency, as well as the local Indian tribes and individuals with concerns about the cultural sensitivity of the area. Specific recommendations are provided by site number and anticipated project-related impacts in Table 4.

**Table 4 Potential Project Impacts and Recommendations by Resource**

| Site Number | Significance Summary | Potential Project Impacts | Recommendations |
|---|---|---|---|
| CA-SDi-07215 [Locus A] | Not significant | Alternatives 1, 2, 3 | Monitoring |
| CA-SDi-07218 | Not evaluated, see CA-SDi-10668 | See CA-SDi-10668 | See CA-SDi-10668 |
| CA-SDi-08654 | Untested portions of this site are considered potentially eligible for inclusion in the NRHP, including all areas within the APE.<br>An area located to the west of Alta Road has been formally identified as significant and this area is found beyond the APE boundaries. | The northern portion of Alternatives 1, 2, and 3 from the intersection of Alta Road and Paseo de la Fuente and a potential disinfection facility site. | Testing within the potential disinfection facility site and monitoring within the paved portions of Alta Road. |
| CA-SDi-10297 | The historic age component is not significant while the prehistoric component is considered significant and potentially eligible for inclusion in the CRHR and the NRHP.<br>The significant portion of this resource is located beyond the APE boundaries. | Alternatives 1, 2, and 3 | Monitoring |
| CA-SDi-10627 | The site has been evaluated and has been determined not to be significant. | The northern portion of Alternatives 1, 2, and 3 from the intersection of Alta Road and Paseo de la Fuente. This resource is entirely located in a paved area within the APE. | Monitoring |
| CA-SDi-10668 | The site has been evaluated and the prehistoric component has been determined to be not significant. The | The northern portion of Alternatives 1, 2, and 3 from the intersection of Alta Road and Paseo de la Fuente and the potential | Monitoring |

**Table 4 Potential Project Impacts and Recommendations by Resource**

| Site Number | Significance Summary | Potential Project Impacts | Recommendations |
|---|---|---|---|
| | historic component has been determined to be significant (Gallegos 1988). | disinfection facility site east of Roll Reservoir | |
| CA-SDi-11793 | Not significant | Alternatives 1, 2, and 3 | Monitoring |
| CA-SDi-12877 | Not significant | Alternatives 1 and 2 | Monitoring |
| Isolate 02/ Isolate 03 | Not significant (Isolated Finds) | Alternative 3 | Monitoring |

The Otay Mesa Conveyance project was included in the Otay Water District Water Resources Master Plan Programmatic Environmental Impact Report (PEIR) and as such, is subject to the mitigation/performance measures established in the PEIR. The following mitigation measures have been adapted from the PEIR and modified to reflect the conditions and parameters of the proposed project.

MM-CUL-1 Prior to trenching or grading of any selected alignment alternative, the Otay Water District (OWD) shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable). Prior to beginning any work that requires cultural resources monitoring:

i. A preconstruction meeting shall be held that includes the archaeologist, construction supervisor and/or grading contractor, and other appropriate personnel to go over the cultural resources monitoring program.

ii. The archaeologist shall (at that meeting or subsequently) submit to the OWD a copy of the site/grading plan that identifies areas to be monitored.

iii. The archaeologist shall coordinate with the construction supervisor and OWD on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring.

iv. The archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.

MM-CUL-2 In the event archaeological resources are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery to allow for preliminary evaluation of potentially significant archaeological resources. The OWD shall consult with the archaeologist to consider means of avoiding or reducing ground disturbance within the archaeological site boundaries, including minor modifications of project footprints, placement of protective fill, establishment of a preservation easement, or other means. If development cannot avoid ground disturbance within the archaeological site boundaries then OWD shall implement the measures listed below.

i. A qualified archaeologist shall prepare a research design and archaeological data recovery plan that will capture those categories of data for which the site is

significant, and implement the data recovery plan. The significance of the discovered resources shall be determined in consultation with the Native American representative, as appropriate.

ii. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion in the CRHR, then OWD shall reconsider project plans in light of the high value of the resource, and implement more substantial project modifications that would allow the site to be preserved intact, such as redesign, placement of fill, or relocation or abandonment.

iii. A qualified archaeologist shall perform appropriate technical analyses, prepare a report and file it with the SCIC, and provide for the permanent curation of recovered resources, as follows:

iv. The archaeologist shall ensure that all significant cultural resources collected are cleaned, catalogued, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; that specialty studies are completed, as appropriate; and that a letter of acceptance from the curation institution has been submitted to OWD.

v. Curation of artifacts shall be completed in consultation with the Native American representative, as applicable.

vi. The construction supervisor shall be notified by the archaeologist when the discovered resources have been collected and removed from the site for evaluation, at which time the construction supervisor shall direct work to continue in the location of the discovery.

# 9.0 Certification

I hereby certify that the statements furnished above and in the attached figures and appendices present the data and information required for this cultural resources assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed: _____ Date: April 6, 2015

Sandra Pentney, M.A., RPA
Associate Project Manager/Archaeologist
Atkins

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# Confidential Appendix A
## Detailed Area of Potential Effects Maps

Confidential Figure A-1: Records Search Map

Confidential Figure A-2: Significance Findings for Resources in the APE

Confidential Figure A-3: Previous Studies in the Project Area

# Appendix B
## Photographs

# Appendix C
## Native American Heritage Commission Sacred Lands File Search and Information Scoping

NAHC Request Letter

NAHC Response Letter

Information Scoping Letter Sample

Information Scoping Responses

# Appendix D
## Department of Parks and Recreation (DPR) 523 Forms

# Appendix E
## Professional Qualifications

# Appendix F
## Removed Alternative

Appendix D

# Phase I Environmental Site Assessment for Pump Station 870-2, Southern California Soil & Testing, Inc., November 2013

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# PHASE 1
# ENVIRONMENTAL SITE ASSESSMENT
# 870-2 PUMP STATION PROJECT
# ASSESSORS PARCEL NUMBERS
# 648-010-17-11 AND 648-010-23-00
# JAMUL, CALIFORNIA

**PREPARED FOR:**

**MS. LISA COBURN-BOYD**
**ENVIRONMENTAL COMPLIANCE SPECIALIST**
**OTAY WATER DISTRICT**
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**6280 RIVERDALE STREET**
**SAN DIEGO, CALIFORNIA 92120**

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## TABLE OF CONTENTS

**SECTION** **PAGE**


**GENERAL SITE INFORMATION**

**EXECUTIVE SUMMARY ..... I**

**1. INTRODUCTION ..... 2**

1.1 PURPOSE ..... 2
1.2 SCOPE OF SERVICES ..... 2
1.3 RELIANCE ..... 3

**2. PHYSIOGRAPHIC SETTING ..... 3**

2.1 SITE DESCRIPTION ..... 3
2.2 TOPOGRAPHY ..... 4
2.3 REGIONAL AND LOCAL GEOLOGY ..... 4
2.4 REGIONAL AND LOCAL HYDROGEOLOGY ..... 4
2.5 HYDROLOGIC FLOOD PLAIN INFORMATION ..... 5

**3. SITE BACKGROUND ..... 5**

3.1 SITE OWNERSHIP ..... 5
3.2 SITE HISTORY ..... 5
*3.2.1 Historical Use Review ..... 6*
*3.2.2 City/County Directories ..... 8*
*3.2.3 Sanborn Fire Insurance Maps ..... 8*
*3.2.4 County of San Diego Building and Safety Department Files ..... 8*
3.3 REGULATORY DATABASE SEARCH ..... 8
*3.3.1 East Mesa Detention Center – 446 Alta Road (300 feet to southeast) ..... 8*
*3.3.2 Brown Field Bombing Range – 2 mile northeast of Otay (sic) Mesa, San Diego, San Diego, CA 92154 (4,500 feet to southwest) ..... 9*
*3.3.3 Orphan Summary ..... 9*
3.4 REGULATORY AGENCY REVIEW ..... 9
*3.4.1 San Diego Fire Protection District ..... 9*
*3.4.2 County of San Diego ..... 9*
*3.4.3 Department of Toxic Substances Control ..... 10*
*3.4.4 San Diego Regional Water Quality Control Board ..... 10*
*3.4.5 Review of Division of Oil, Gas and Geothermal Resources Files ..... 10*
3.5 INTERVIEWS WITH PROPERTY OWNER ..... 10
*3.5.1 Past or Present Uses Indicating Environmental Concern ..... 10*
*3.5.2 Environmental Liens of Governmental Notification ..... 10*
*3.5.3 Presence of Hazardous Substances or Environmental Violations ..... 10*
*3.5.4 Previous Assessments ..... 11*
*3.5.5 Legal Proceedings ..... 11*
3.6 USER SPECIFIC INFORMATION ..... 11
*3.6.1 Environmental Liens or Activity and Use Limitations ..... 11*
*3.6.2 Presence or Likely Presence of Contamination ..... 11*
*3.6.3 Other ..... 11*
3.7 PREVIOUS ASSESSMENTS ..... 12

**4. SITE RECONNAISSANCE ..... 12**

4.1 PURPOSE ..... 12
4.2 SUBJECT SITE ..... 12
4.3 ADJACENT PROPERTIES ..... 13

## TABLE OF CONTENTS (Continued)

**SECTION** **PAGE**


**5. FINDINGS AND OPINIONS** ..... 14

**6. DATA GAPS** ..... 14

**7. LIMITATIONS/DEVIATIONS FROM ASTM PRACTICES** ..... 14

**8. CONCLUSIONS** ..... 14

**9. REFERENCES** ..... 15


**ATTACHMENTS**

**FIGURES**


Figure 1 ..... Site Vicinity Map
Figure 2 ..... Site Map
Figure 3 and 4 ..... Site Photograph Location Map
Figures 5 through 14 ..... Site Photographs


**TABLES**


Table 1 ..... Summary of Historical Use
Table 2 ..... Summary of Site Reconnaissance


**APPENDICES**


Appendix A ..... Resume of Environmental Professional
Appendix B ..... Historical Aerial Photographs/Topographic Maps
Appendix C ..... EDR Report (Provided on Compact Disc as a PDF Document)
Appendix D ..... Phase I Client Questionnaire

## GENERAL SITE INFORMATION

**Project Information:** 870-2 Pump Station Project, Roll Reservoir, Jamul, California

**SCS&T Project Number:** 1311158-1 TASK 3

**Site Information:**
Assessor's Parcel Numbers (APN's): 648-010-17-11 and 648-010-23-00
Alta Road
Jamul, San Diego County, California 91935

**Site Access Contact:** Ms. Lisa Coburn-Boyd

**Consultant Information:**
Southern California Soil & Testing, Inc.
6280 Riverdale Street
San Diego, California 92120
**Phone:** 619.280.4321
**Fax:** 619.280.4717
**E-mail Address:** dskinner@scst.com

**Inspection Date:** November 19, 2013
**Report Date:** November 25, 2013

**Client Information:**
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978
**E-mail Address:** lisa.coburn-boyd@otaywater.gov

**Site Assessor:**
Douglas A. Skinner – Senior Engineering Geologist

**EP Certification:**
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10.

REGISTERED PROFESSIONAL GEOLOGIST
DOUGLAS A. SKINNER
No. 2472
Exp. 8-31-14
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Douglas A. Skinner, CEG 2472 – Project Geologist

**AAI Certification:**
WE have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

REGISTERED PROFESSIONAL GEOLOGIST
DOUGLAS A. SKINNER
No. 2472
Exp. 8-31-14
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Douglas A. Skinner, CEG 2472 – Project Geologist

## EXECUTIVE SUMMARY

At the request and authorization of the Client (Otay Water District), Southern California Soil and Testing, Inc. (SCS&T), conducted a Phase I Environmental Site Assessment (ESA) for the property identified as 870-2 Pump Station and located at the northern terminus of Alta Road, in the community of Jamul, San Diego County, California (Figure 1). The purpose of this Phase I ESA was to assess the presence or likely presence of an existing, historical, or threatened release of any hazardous substances or petroleum products into structures, soil, and/or groundwater beneath the subject property, to the extent practical (i.e., *recognized environmental conditions* as delineated in ASTM E1527-13).

The subject property consists of two parcels identified as Assessor Parcel Numbers (APN) 648-010-17-11 and 648-010-23-00. The subject property is located at the northern terminus of Alta Road. The subject property is comprised of approximately 19 acres.

In general, the subject property is bounded by undeveloped land to the north and west, and by the East Mesa Detention Facility Complex on the south and east (Figure 2). Other than the prison and law enforcement training facilities adjacent to and near the site, the closest commercial development is “Impact Auto Body and Paint”, approximately 2 miles south of the site on Otay Mesa Road. According to the County of San Diego Land Use and Environment Group (LUEG), the subject property is zoned Public/Semi-Public Facilities.

Based on historical records such as aerial photographs, and topographic maps, the subject property was undeveloped until sometime after 1953 and prior to 1964 when it was developed into a reservoir/public utility facility. Expansion of the reservoir and associated onsite facilities occurred between 1964 and 2005, when the site reached its current configuration (Figure 3).

On November 19th, 2013, SCS&T personnel conducted a site reconnaissance to physically observe the site and adjoining properties for conditions indicating a potential recognized environmental concern. Concerns would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon staining, waste drums, illegal dumping, or improper waste storage and/or handling. Evidence of the likely presence of *recognized environmental conditions* were not noted on the subject property during our site reconnaissance.

We have performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Designation E1527-13 for the property identified as 870-2 Pump Station and located at northern terminus of Alta Road, in the community of Jamul, San Diego County, California. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report. This Phase I ESA has revealed **no evidence** of the likely presence of *recognized environmental conditions* in connection with the property.

**DISCLAIMER**

Clients' reliance, and any third party's reliance on the terms, conditions, findings, conclusions, and opinions set forth in this report is expressly conditioned upon Client's consent, acknowledgement, and agreement to the following terms ("Agreement"). If Client or any third party does not agree to this Agreement, they shall not be entitled to rely upon any work performed by Consultant including but not limited to, this Report.

The Agreement for Consultant to perform its scope of services at the Project and to render this report and any subsequent reliance letters is entered into solely for the benefit of Client and Consultant and in no way is intended to benefit or extend any right or interest to any third party. It is the intention of Client and Consultant that they are the sole beneficiaries to the rights and obligations arising herefrom, and any benefit to be derived by any third party is merely incidental to and unintended by the Agreement.

Consultant's services in connection with the Project shall not subject the Consultant's individual employees, officers, or directors to any personal legal exposure for the risks associated with this project. Therefore, notwithstanding anything to the contrary contained herein, the Client agrees that as the Client's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted against the Consultant, a California corporation, and not against any of the Consultant's individual employees, officers or directors.

Consultant's liability for damages due to professional negligence will be limited to an amount not to exceed the total fees received by consultant under this agreement, or the amount of $50,000, whichever is greater.

It is intended that this limitation apply in the aggregate to any and all claims, losses, costs or damages, including attorney's fees and expert witness fees and costs, resulting from or related to the project or this agreement.

Consultant shall, upon Client's written request within 180 days after the date of any report produced by Consultant for Client under this Agreement provide up to two letters of reliance to third party lenders or equity participants identified by Client for an additional fee of $500. Such

reliance letters shall entitle the addressees thereof to rely upon the report addressed to Client as though the report were addressed to such third party, subject to the terms and conditions of this Agreement, and acknowledging that the limitation on liability in this Agreement applies to the aggregate liability to Client and any such third parties.

# 1. INTRODUCTION

## 1.1 PURPOSE

The purpose of this Phase I Environmental Site Assessment (ESA) was to assess the possible presence of recognized environmental conditions for the property identified as 870-2 Pump Station and located at the northern terminus of Alta Road, in the community of Jamul, San Diego County, California (Figure 1). The purpose of this Phase I ESA was to assess the presence or likely presence of *recognized environmental conditions* as delineated in ASTM E1527-13). Recognized environmental conditions include property uses that may indicate the presence of an existing, historical, or threatened release of any hazardous substances or petroleum products into structures, soil, and/or groundwater beneath the property. The term recognized environmental conditions is not intended to include de minimis conditions that generally do not present a material risk or harm to public health or the environment, and that would not be subject to enforcement action by a regulatory agency.

This ESA was performed in general conformance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-13.

## 1.2 SCOPE OF SERVICES

The following scope of services was conducted by SCS&T:

- A review of readily available documents which included previous environmental reports by SCS&T, topographic, geologic, and hydrogeologic conditions associated with the subject site.
- A review of readily available maps, aerial photographs and other documents relative to historical subject site usage and development.
- A review of readily available federal, state, county, and city documents and database files concerning hazardous material storage, generation and disposal, active and inactive landfills, existing environmental concerns, and associated permits related to the subject property and/or immediately adjacent sites.
- A site reconnaissance to ascertain current conditions of the subject property.
- Interviews with person(s) knowledgeable of the subject property.
- The preparation of this report which presents our findings, opinions and conclusions.

### 1.3 RELIANCE

This ESA has been prepared for the sole use of the Otay Water District ("Client"). This assessment should not be relied upon by other parties without the express written consent of SCS&T and the above named client. Any use or reliance upon this assessment by a party other than the above named client, therefore shall be solely at the risk of such third party and without legal recourse against SCS&T, its employees, officers, or directors, regardless of whether the action in which recovery of damages is brought or based upon contract, tort, statute or otherwise.

This assessment should not be interpreted as a statistical evaluation of the subject site, but rather is intended to provide a preliminary indication of on-site impacts from previous site usage and/or the release of hazardous materials. If no significant indicators of the presence of hazardous materials and/or petroleum contamination are encountered during this search, this does not preclude their presence. The findings in this report are based upon published geologic and hydrogeologic information, and information (both documentary and oral) provided by the County of San Diego, Environmental Data Resources, Inc., (EDR®) (i.e., agency database search), various state and federal agencies, and SCS&T's field observations. Some of this data is subject to change overtime and is based on information not currently observable or measurable, but recorded by documents or orally reported by individuals.

## 2. PHYSIOGRAPHIC SETTING

### 2.1 SITE DESCRIPTION

The subject property consists of two parcels identified as Assessor Parcel Numbers (APN) 648-010-17-11 and 648-010-23-00. The subject property is located at the northern terminus of Alta Road. The subject property is comprised of approximately 19 acres.

In general, the subject property is bounded by undeveloped land to the north and west, and by the East Mesa Detention Facility Complex on the south and east (Figure 2). Other than the prison and law enforcement training facilities adjacent to and near the site, the closest commercial development is "Impact Auto Body and Paint", approximately 2 miles south of the site on Otay Mesa Road. According to the County of San Diego Land Use and Environment Group (LUEG), the subject property is zoned Public/Semi-Public Facilities.

Based on historical records such as aerial photographs, and topographic maps, the subject property was undeveloped until sometime after 1953 and prior to 1964 when it was developed into a reservoir/public utility facility. Expansion of the reservoir and associated onsite facilities occurred between 1964 and 2005, when the site reached its current configuration (Figure 2).

## 2.2 TOPOGRAPHY

The subject property is located on the United States Geologic Survey (USGS) 7.5 Minute Otay Mesa Quadrangle map (USGS, 1975). The map indicates the elevation of the subject property is approximately 560 feet above mean sea level (msl). The subject site is located along a northwest-southeast running ridge line. The majority of the subject site is relatively flat with the southern portion of the subject site descending towards the south into a small ravine.

## 2.3 REGIONAL AND LOCAL GEOLOGY

The subject property lies within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges Geomorphic Province, one of the largest geomorphic units in western North America, extends from the Transverse Ranges Geomorphic Province and the Los Angeles Basin, south to Baja California. It is bound on the west by the Pacific Ocean, on the south by the Gulf of California and on the east by the Colorado Desert Province. The Peninsular Ranges are essentially a series of northeast-southeast oriented fault blocks (CDMG, 2002). Regional mapping of the El Cajon 30' X 60' Quadrangle (Todd, 2004) indicates the subject property is underlain by Tertiary-age fanglomerate deposits consisting of moderately to well consolidated and slopewash.

The subject property is not within a Fault-Rupture Hazard Zone (Hart & Bryant, 2007; CDMG, 2000) or within a known Active Fault Near-Source Zone (CDMG, 1988). Three (3) major faults zones and some subordinate fault zones are found in this province. The Elsinore Fault zone and the San Jacinto Fault zones trend northwest-southeast, and are found near the middle of the province. The San Andreas Fault zone borders the northeasterly margin of the province, whereas, a fault related to the San Andreas Transform Fault System, the Newport-Inglewood-Rose Canyon Fault zone, exists near the western margin and Continental Borderland Geomorphic Province (Jennings, 1994). The possibility of ground acceleration or ground shaking at the site may be considered similar to the Southern California region as a whole.

Soil in the vicinity of the site has been identified by the United States Department of Agriculture – Soil Conservation Service as a gravely clay loam within the Stockpen Soil Series and a loam within the Huerhuero Soil Series (USDA, 2011). These soils are moderately to well drained and have very slow infiltration rates.

## 2.4 REGIONAL AND LOCAL HYDROGEOLOGY

According to the California Regional Water Quality Control Board – San Diego Region 9 (RWQCB, 1995), the subject site is located within the Otay Valley Hydrologic Area, of the Otay Hydrologic

Unit. Groundwater in this subarea has been classified as having existing beneficial uses for municipal and domestic supply, agricultural supply and industrial service supply.

The California Department of Water Resources Water Data Library (WDL) website and information provided in the EDR® report indicates that there are no Public Water Supply Wells located within 1-mile of the subject property.

Additionally, SCS&T reviewed data on the GeoTracker Website, regarding depth to groundwater for properties located near the subject site. No groundwater monitoring wells are reported to be within ½ mile of the subject property.

### 2.5 HYDROLOGIC FLOOD PLAIN INFORMATION

SCS&T reviewed the Federal Emergency Management Agency (FEMA) Flood Hazard Map online database (2010) to determine if the subject property was located within an area designated as a Flood Hazard Zone. According to the information reviewed on the Flood Insurance Rate Map (FIRM), Map Numbers FM06073C2181G and FM06073C2183G, the subject property is located within Zone X. Zone X designates the following:

- Areas outside the one percent annual chance floodplain;
- Areas of one percent annual chance sheet flow flooding where average depths are less than one-foot;
- Areas of one percent annual chance stream flooding where the contributing drainage area is less than one square mile;
- Or, areas protected from the one percent annual chance flood by levees.

No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

## 3. SITE BACKGROUND

### 3.1 SITE OWNERSHIP

The current owner of the subject property is listed as the Otay Water District with a mailing address of 2554 Sweetwater Springs Boulevard, Spring Valley, California 91978.

### 3.2 SITE HISTORY

SCS&T reviewed readily available information sources to evaluate historic land use in and around the subject site. These information sources include aerial photographs, USGS maps and files

maintained by the County of San Diego. A summary of our reviews are presented in the following sections.

### 3.2.1 Historical Use Review

Aerial photographs and historical topographical maps were reviewed to identify historical land development and any surface conditions which may have impacted the subject property. Photographs and historical topographic maps dating 1903, 1904, 1943, 1953, 1955, 1964, 1971, 1975, 1980, 1990, 1991, 1994, 1996, 2005, 2009, 2010 and 2012 were obtained and reviewed from EDR®, an environmental information/database retrieval service. Aerial imagery from 1994 through 2012 maintained by Google Earth® was also reviewed.

**Table 1** summarizes the results of the aerial photograph and historical topographic map review. Copies of the aerial photographs and historical topographic maps provided by EDR® are included in **Appendix B**.

Based on the data reviewed, the subject property was undeveloped until at least 1953. Sometime after 1953 and prior to 1964, the subject site began to be used for a reservoir/public utility facility. A small reservoir is visible in the area currently identified as the “high head pump station”. Several small structures are apparent in the area currently identified as the “low head pump station”. Access roads are also apparent at the site in the 1964 aerial photograph. Roll Reservoir was constructed sometime prior to 1971. In the subsequent aerial photographs, the construction of the prison facility and law enforcement training facility adjacent to the subject site begins in about 1990 and is completed by 2005.

**TABLE 1**
**Summary of Historical Use**

| Year | Source and Scale | Comments |
|---|---|---|
| 1903 | Topographic map 1:125,500 | Subject property and adjacent properties appear undeveloped. Scale not suitable to discern individual properties. |
| 1904 | Topographic map 1:250,000 | Subject and adjacent properties appear similar to the 1903 topographic map. |
| 1943 | Topographic map 1:62,500 | Subject and adjacent property appear similar to the 1903 topographic map. |
| 1953 | Aerial Photograph 1: 6,000 | Subject and adjacent properties appear undeveloped. Dirt roads are visible south of the subject property. |
| 1955 | Topographic map 1:24,000 | Subject and adjacent properties appear undeveloped. "Jeep Trails" are mapped on the north side of the subject property. |
| 1955 | Topographic map 1:62,500 | Subject and adjacent property appear similar to the previous topographic map. |
| 1964 | Aerial Photograph 1:6,000 | Structures associated with the Low Head Pump Station and High Head Pump Station are present. An access road connects the two pump stations. Individual structures are difficult to discern. |
| 1971 | Topographic Map 1:24,000 | High Head Pump Station and Roll Reservoir are mapped on site. Adjacent properties appear undeveloped. |
| 1971 | Aerial Photograph 1:7,6,000 | Roll Reservoir and a smaller reservoir are visible on the subject property. The smaller reservoir is located where the current High Head Pump Station is mapped. Adjacent properties appear undeveloped. |
| 1975 | Topographic Map 1:24,000 | The subject and adjacent properties appear similar to the previous topographic map. |
| 1980 | Aerial Photograph 1:6,000 | The smaller reservoir at the High Head Pump Station location appears filled in. Adjacent and surrounding properties appear undeveloped. |
| 1990 | Aerial Photograph 1:6,000 | Subject property appears similar to the previous aerial photograph. Alta Road appears in its current alignment. Construction has begun on the prison facility southeast of subject property |
| 1991 | Topographic Map 1:50,000 | Map scale does not allow discernment of individual properties and structures. |
| 1994 | Aerial Photograph 1:6,000 | Subject and adjacent properties appear similar to previous aerial photograph. |
| 1996 | Topographic Map 1:24,000 | Roll Reservoir is apparent on subject property. The adjacent prison facility is mapped and identified as "GF Bailey Detention Fac.". |
| 2005 | Aerial Photograph 1:6,000 | Subject property appears as in its current configuration. A law enforcement training facility has been constructed between the subject property and the prison facility. |
| 2009, 2010, and 2012 | Aerial Photographs 1:6,000 | Subject and adjacent properties appear similar to previous aerial photograph. |

### 3.2.2 City/County Directories

City and county directories were reviewed for listings that may indicate the use or storage of hazardous materials. SCS&T personnel reviewed listings from 1970 to 2013. The subject property was not listed in any of the city/county directories. No listings were noted that may indicate the use or storage of hazardous materials.

### 3.2.3 Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. EDR® performed a search of their complete Library of Sanborn Fire Insurance Maps. Sanborn Map coverage of the subject property was not found.

### 3.2.4 County of San Diego Building and Safety Department Files

SCS&T contacted the County of San Diego Land Use and Environment Group to review any existing files related to the subject property. SCS&T reviewed historical permits available on-line with the Building Department. No records for the subject site were on file.

## 3.3 REGULATORY DATABASE SEARCH

SCS&T reviewed known electronic database listings for possible hazardous waste generating establishments in the vicinity of the subject site, as well as adjacent sites with known environmental concerns. Facilities were identified by county, state, or federal agencies that generate, store, or dispose of hazardous materials. The information in this section was obtained from EDR®, an environmental information/database retrieval service. A copy of the EDR® report is provided in **Appendix C**, (only on compact disc as a PDF document), along with a description of the individual databases. <u>The subject property was not listed on the databases reviewed as having environmental concerns.</u> Two additional sites are identified within ¼-mile of the subject property in the EDR report as having known environmental concerns are identified and discussed in the following sections.

### 3.3.1 East Mesa Detention Center – 446 Alta Road (300 feet to southeast)

This facility is listed on the following databases:

- Leaking Underground Storage Tank Listing (LUST)
- San Diego Co. Site Assessment and Mitigation Database (San Diego Co. SAM)

This site is reported to have had two 12,000 gallon UST's. The UST's were removed in 2005 and replaced with a single split wall 20,000 gallon UST. Soil sampling conducted during UST removal

activities indicated a release of petroleum hydrocarbons had occurs at the site. Subsequent assessment activities estimated a total of 260 cubic yards of soil had been impacted by the release. The County of San Diego Department of Environmental Health issued a "no further action required" for the site in December 2007. Based on a review of files provided by EDR®, and files maintained by GeoTracker, it is not likely that this release or activities at this site have created a recognized environmental condition at the subject site. This release should be considered a "controlled recognized environmental condition".

#### 3.3.2 Brown Field Bombing Range – 2 mile northeast of Otay (sic) Mesa, San Diego, San Diego, CA 92154 (4,500 feet to southwest)

This facility is listed on the following databases:

- State Response Sites (Response)
- Envirostor Database (Envirostor)

This site is known or suspected to contain military munitions and explosives. Based on the distance of this site from the subject property and the site's historic use, it is not likely that activities at this site have adversely impacted the subject property.

#### 3.3.3 Orphan Summary

The sites listed included in the Orphan Summary did not appear to be adjacent to the site or have environmental concerns that are likely to have adversely impacted the site.

### 3.4 REGULATORY AGENCY REVIEW

#### 3.4.1 San Diego Fire Protection District

SCS&T contacted the San Diego Rural Fire Protection District (SDRFPD) concerning any permit, inspection, UST, of cleanup information available concerning the subject property. As of the date of this report, the SDRFPD has not responded.

#### 3.4.2 County of San Diego

**Department of Planning and Land Use**

The County of San Diego Department of Planning and Land Use (DPLU) was contacted regarding code violations or building/construction permits for the subject property. No information from the DPLU was readily available.

### 3.4.3 Department of Toxic Substances Control

SCS&T researched the DTSC online database EnviroStor for listings on or adjacent to the subject property. The subject property was not listed on any of the databases researched.

### 3.4.4 San Diego Regional Water Quality Control Board

SCS&T reviewed the online database GeoTracker (2010), which provides records on LUSTs and Spills, Leaks, Investigation and Cleanup (SLIC) sites, which is maintained by the State Water Quality Control Board. The subject property was not listed on any of the databases researched.

### 3.4.5 Review of Division of Oil, Gas and Geothermal Resources Files

Oil and gas wells were not observed at the subject property during our site reconnaissance. A review of the California Division of Oil, Gas and Geothermal Resources Website for oil and gas fields in California and Alaska (CDOGGR, 2007), Wildcat Map W-I-7, did not indicate the presence of oil or gas wells on or adjacent to the subject property.

## 3.5 INTERVIEWS WITH PROPERTY OWNER

SCS&T previously contacted the current property owner representative, Ms. Lisa Coburn-Boyd, with the Otay Water District, for information regarding the subject property. The information provided by Ms. Coburn-Boyd is documented below.

### 3.5.1 Past or Present Uses Indicating Environmental Concern

Ms. Coburn-Boyd stated that she is not aware of current or previous uses of the subject property and of any adjoining property which <u>may</u> create an environmental concern.

### 3.5.2 Environmental Liens of Governmental Notification

Ms. Coburn-Boyd stated that she is not aware of any environmental liens of governmental notification relating to past or recurrent violations of environmental laws with respect to the property of any facility located on the property.

### 3.5.3 Presence of Hazardous Substances or Environmental Violations

Ms. Coburn-Boyd stated that she is aware of the past and current existence of hazardous substances or petroleum products on the subject property. There is a 500-gallon oil storage tanks on the subject property. Ms. Coburn-Boyd is not aware of environmental violations with respect to the property or any facility located on the property.

### 3.5.4 Previous Assessments

Ms. Coburn-Boyd stated that she is not aware of any environmental site assessment reports prepared for the property that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property of that recommended further assessment of the property.

### 3.5.5 Legal Proceedings

Ms. Coburn-Boyd stated that she is not aware of any past, threatened, or pending lawsuits of administrative proceedings concerning a release of threatened release of any hazardous substance of petroleum products involving the property by any owner or occupant of the property.

## 3.6 USER SPECIFIC INFORMATION

Pursuant to ASTM E1527-05, SCS&T provided a Phase I ESA User Specific Questionnaire to the "user" (the person on whose behalf the Phase I ESA is being conducted), Ms. Lisa Coburn-Boyd, with the Otay Water District. The User Specific Information provided by Ms. Coburn-Boyd is documented below. A list of the user specific questions (per ASTM E1527-05) with Ms. Coburn-Boyd's associated responses are included in **Appendix D**.

### 3.6.1 Environmental Liens or Activity and Use Limitations

Ms. Coburn-Boyd stated that she is not aware of any environmental liens or activity use limitations on the subject property.

### 3.6.2 Presence or Likely Presence of Contamination

Ms. Coburn-Boyd stated that she has limited knowledge of the current of the current and historic uses the subject property as they relate to the presence or likely presence of hazardous substances and petroleum products. She is not aware of any spills or chemical releases or of any environmental cleanups that have taken place at the subject property.

### 3.6.3 Other

Ms. Coburn-Boyd did note that the Phase I ESA was requested analyze any potential impacts from hazards/hazardous materials for the CEQA document being developed for the construction of a pump station.

### 3.7 PREVIOUS ASSESSMENTS

It is SCS&T understanding that geotechnical, biological resource, and archeological assessments have been conducted for the subject property by others.

## 4. SITE RECONNAISSANCE

### 4.1 PURPOSE

The purpose of our site reconnaissance was to physically observe the subject site, site structures, and adjoining properties for conditions indicating an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into structures on the subject site, or into soil and/or groundwater beneath the subject property. This would include any evidence of contamination, distressed vegetation, petroleum-hydrocarbon surface staining, waste drums, USTs, ASTs, illegal dumping, or improper waste storage/handling. Detailed information pertaining to our site reconnaissance is provided in the text below.

### 4.2 SUBJECT SITE

An SCS&T representative visited the subject property on November 19, 2013. SCS&T conducted a walking inspection around the perimeter of the subject property, and then traversed the subject property. Visual conditions observed during the site reconnaissance of the subject property, are documented in a Photographic Log (Figures 5 through 14), and summarized in Table 2.

**TABLE 2**
**Summary of Site Reconnaissance**

| Item | Concerns | Comments |
|---|---|---|
| General Housekeeping | No | No concerns noted. |
| Surface Spills | No | None observed. |
| Stained Surfaces | Yes | Minor surficial stating near pump at High Head Pump Station. |
| Fill Materials | No | No significant fill soils. |
| Pits/Ponds/Lagoons | No | None observed. |
| Surface Impoundments | No | None observed. |
| ASTs/USTs | Yes | One 240-gallon and one 500-gallon AST were observed within the High Head Pump Station. |
| Distressed Vegetation | No | None observed. |
| Wetlands | No | None observed. |
| Electrical Substations | No | None observed. |
| Areas of Dumping | No | Greenwaste, wood, tires, and irrigation lines. |
| Transformers | Yes | Two power poles with transformers were observed near Low and High Head Pump Stations. |
| Waste/ Scrap Storage | No | No concerns. |
| Chemical Use/Storage | No | None observed. |

The subject property consists of two parcels identified as Assessor Parcel Numbers (APN) 648-010-17-11 and 648-010-23-00. Access to subject property is from the northern terminus of Alta Road. The subject site is access through dirt roads throughout the site. Numerous underground vaults, blow off valves, high pressure gas lines, and underground water systems were observed through the subject site. Two pump stations, Low Head and High Head Pump Station are also located on the subject property. The majority of the subject site is currently covered with native weeds, grasses, and shrubs.

**Low Head Pump Station-**

Low Head Pump Station is located in the northern portion of the site. A chain-link fence was observed around the perimeter with a locked access gate. One 5 gallon bucket was observed in the northern portion of the Low Head Pump Station. A utility pole with pole-mounted electrical transformers, and electrical service lines were observed near the pumps. No staining, odors, or indications of releases from the transformers were observed.

**High Head Pump Station-**

High Head Pump Station is located in the eastern portion of the site. A chain-link fence was observed around the perimeter with a locked access gate. Two Above Ground Storage Tanks (ASTs) and two 55 gallon drums were observed within the High Head Pump Station. One AST appears to be empty and was labeled with used oil. The other AST was labeled with new oil. The 55-gallon drums were also labeled as oil. Minor surficial sating was observed the general location of the pumps. A utility pole with pole-mounted electrical transformers, and electrical service lines were observed near the dirt access road. No significant staining, odors, or indications of releases from the ASTs or transformers were observed. The minor surficial staining observed is considered a *de minimis* condition.

### 4.3 ADJACENT PROPERTIES

SCS&T conducted a visual and auto reconnaissance of the adjoining neighborhoods (to the extent practical) to evaluate the potential for offsite impacts that may affect the subject property. These would include evidence of chemical storage or usage, surface staining or leakage, distressed vegetation, or evidence of illegal dumping. In general, the subject property is surrounded by agricultural/residential development.

Immediately adjacent properties were not identified as having environmental related issues on any of the databases researched, and are not considered as an environmental concern at this time. No service stations, dry cleaner, or heavy industrial properties were located in the immediate vicinity.

## 5. FINDINGS AND OPINIONS

Based on the information obtained in this ESA, SCS&T has the following findings and opinions:

- Historical REC's – No known or suspected Historic unresolved REC's have been revealed during the preparation of this ESA.
- Known or suspected REC's – No known or suspected REC's have been revealed during the preparation of this ESA.
- Controlled REC's – One controlled REC, East Mesa Detention Center, has been revealed during the preparation of this ESA.
- *De Minimis* Conditions – A *de minimis* condition related to minor surface staining near the AST's within the "high head pump station" was noted during the preparation of this ESA.

## 6. DATA GAPS

Section 3.2.21 (ASTM 1527-13) defines a data gap as "a lack or inability to obtain information required by the practice despite good faith efforts of the environmental professional to gather such information." Significant data gaps affect the ability of the Environmental Professional to identify recognized environmental conditions affecting the site. Based on the information obtained during the course of this investigation, no data gaps were encountered.

## 7. LIMITATIONS/DEVIATIONS FROM ASTM PRACTICES

Section 12.10 (ASTM 1527-13), states that all limitations, deletions and deviations from this practice shall be listed individually and in detail, including client imposed constraints, and all additions should be listed.

SCS&T believes that there are no exceptions to, or deletions from, the ASTM Designation E1527-05 Guidelines.

## 8. CONCLUSIONS

We have performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Designation E1527-13 for the property identified as 870-2 Pump Station and located at northern terminus of Alta Road, in the community of Jamul, San Diego County, California. Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report. This Phase I ESA has revealed **no evidence** of the likely presence of *recognized environmental conditions* in connection with the property.

## 9. REFERENCES

1) California Department of Water Resources, Water Data Library (WDL), Website (http://www.water.ca.gov/waterdatalibrary), accessed November 2013.

2) California Department of Conservation, Division of Mines and Geology (CDMG), 2000, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Southern Region, DMG CD 2000-003.

3) California Department of Conservation Division of Mines and Geology (CDMG), 1998, *Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada*, published by International Conference of Building Officials.

4) California Division of Oil, Gas, and Geothermal Resources (CDOGGR) website, www.consrv.ca.gov, Oil and Gas Maps District 1, accessed November 2013.

5) Department of Toxic Substances (DTSC), Website (http://www.envirostor.dtsc.ca.gov/public/), EnviroStor database, accessed November2013.

6) Federal Emergency Management Agency (FEMA) website, accessed November 2013 (www.fema.gov).

7) Hart, E.W., and Bryant, W.A., 2007, *Fault-Rupture Hazard Zones in California,* California Department of Conservation, Division of Mines and Geology, Special Publication 42.

8) Jennings, Charles W., 1994 *Fault Activity Map of California and Adjacent Areas*, California Division of Mines and Geology, California Geologic Data Map Series, Map Number 6.

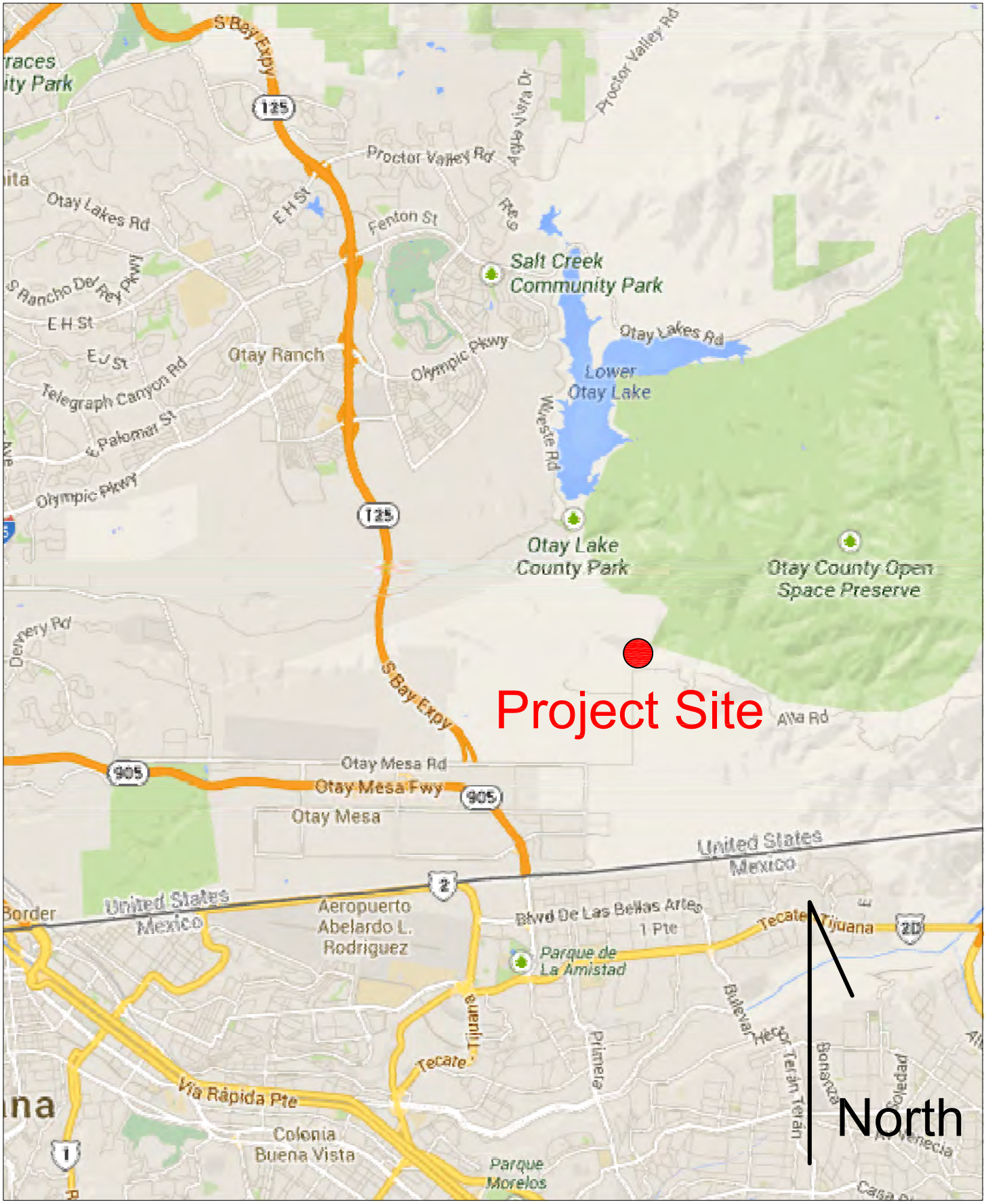
9) San Diego Regional Water Quality Control Board –Region 9, 1995, (SARWQCB): California State Water Resources Control Board Publication.

10) State Water Resources Control Board, Website, GeoTracker database, (http://www.geotracker.swrcb.ca.gov/), accessed November 2013.

11) United States Department of Agriculture (USDA), Natural Resources Conservation Service, Website (http://www.websoilsurvey.nrcs.usda.gov/app/) Web Soil Survey, accessed November 2013.

12) United States Geologic Survey (USGS), 1968 (date revised 1975), 7.5' Topographic Map, Otay Mesa, California Quadrangle.

13) United States Geologic Survey (USGS), 2004, Preliminary Map of the El Cajon 30' X 60' Quadrangle, Version 1, compiled by V.R. Todd.

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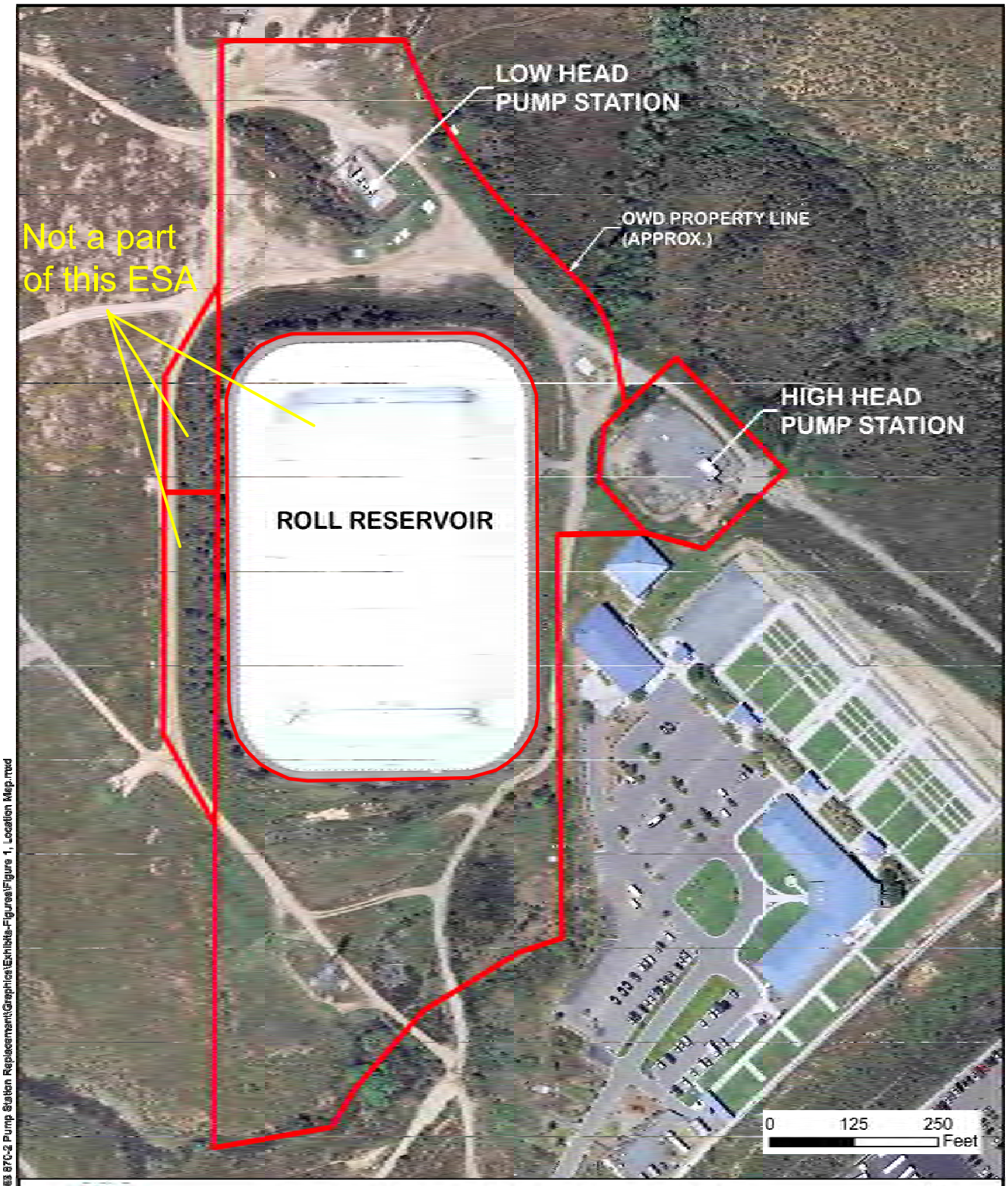
|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE LOCATION MAP<br>870-2 PUMP STATION<br>Jamul, California | Date: November 2013<br>By: DAS<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>1 |




P:\WORKING\CIP P2083 870-2 Pump Station Replacement\Graphics\Exhibits-Figures\Figure 1, Location Map.mxd

# OTAY WATER DISTRICT

## ROLL RESERVOIR LOCATION MAP

CIP P2083

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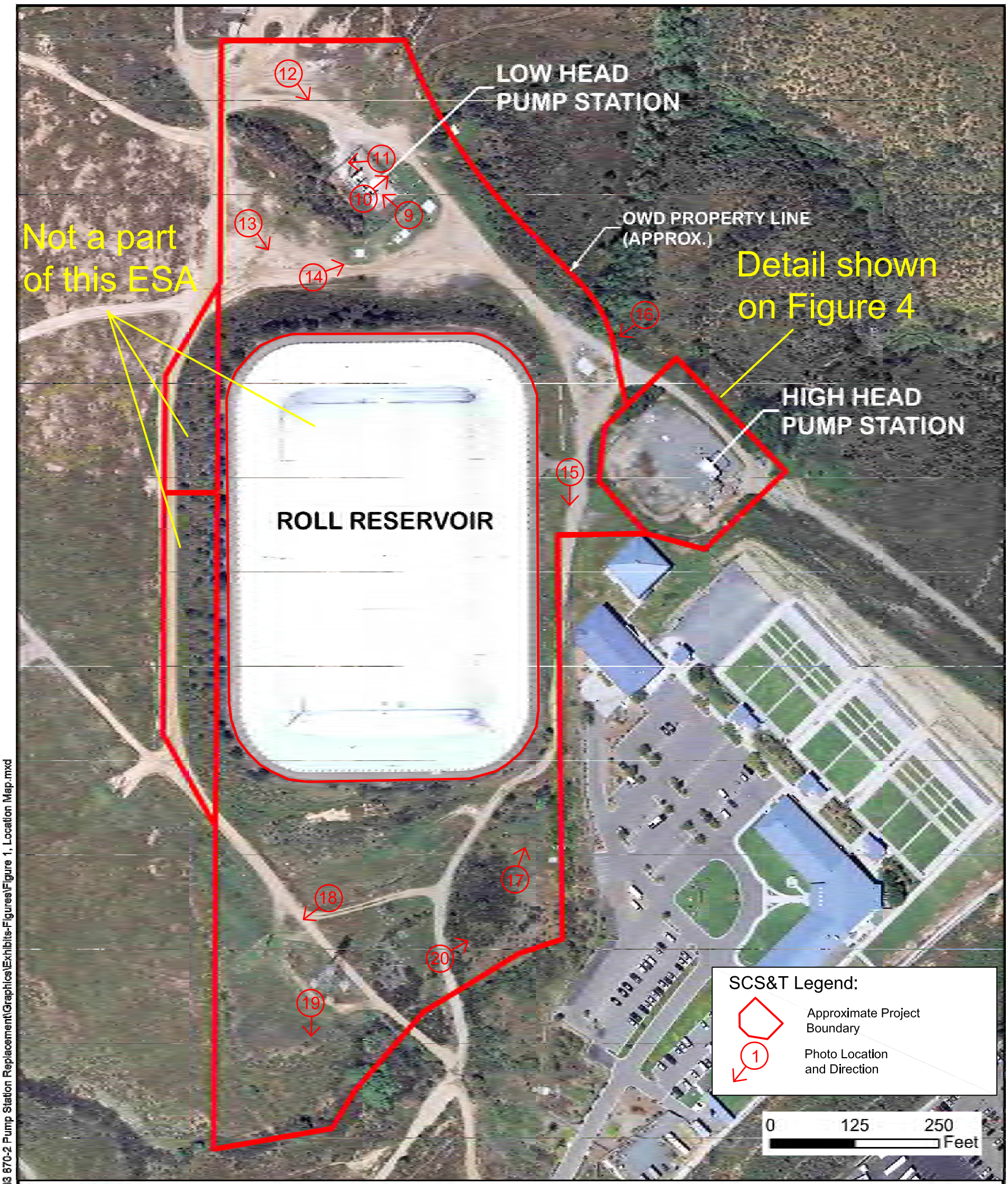
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE MAP<br>870-2 PUMP STATION<br>Jamul, California | Date: November 2013<br>By: DAS<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>2 |

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# OTAY WATER DISTRICT

## ROLL RESERVOIR
## LOCATION MAP

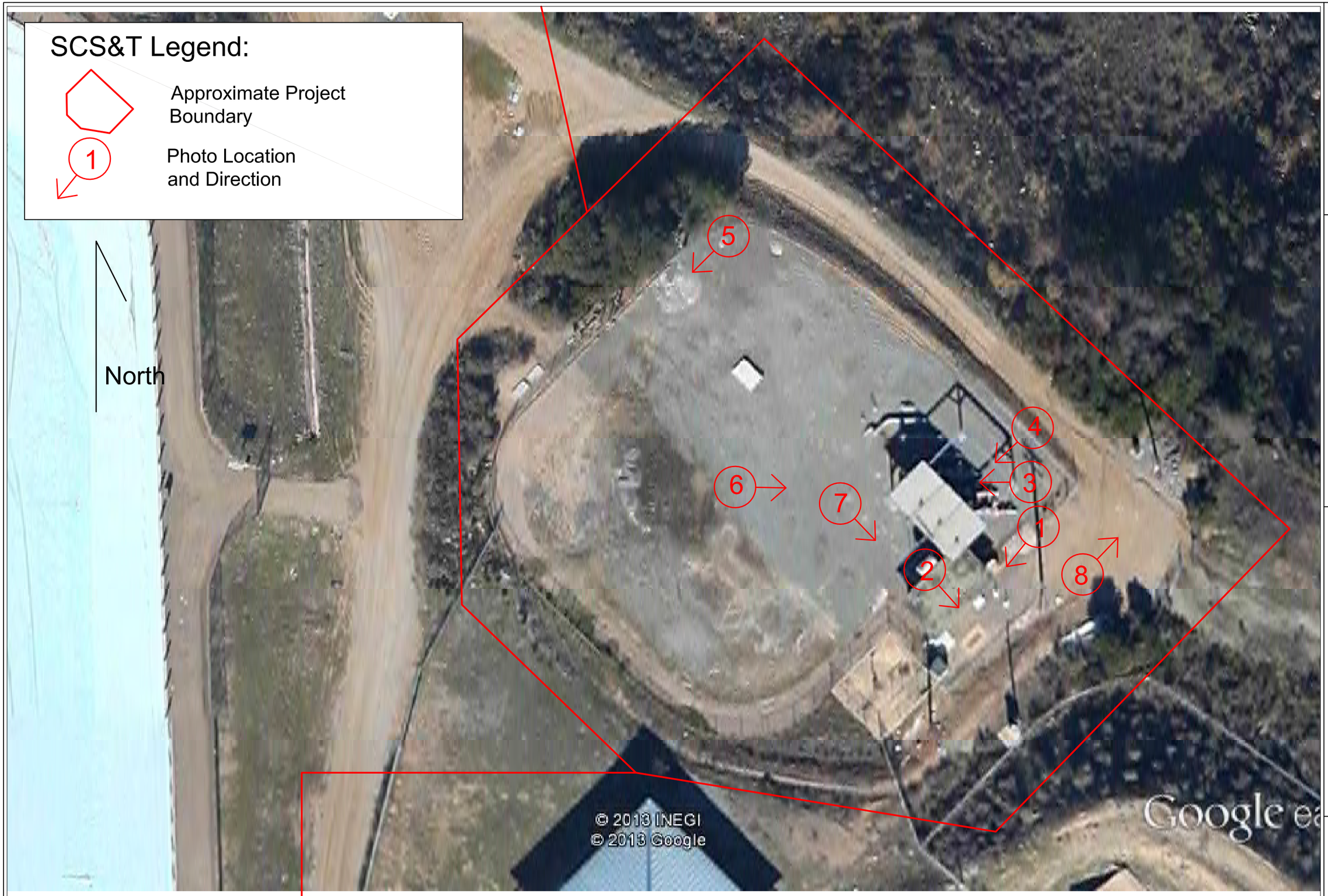
CIP P2083

Figure: 3

SOUTHERN CALIFORNIA
SOIL & TESTING, INC.

Photograph Location Map
870-2 Pump Station
Jamul, California

| | |
|---|---|
| Date: | November 2013 |
| By: | DAS |
| Job No.: | 1311158-1 |
| Scale: | Not to Scale |




Date: November 2013
By: DAS
Job No.: 1311158-1
Scale: Not to Scale

Photograph Location Map
870-2 Pump Station
Jamul, California

SOUTHERN CALIFORNIA
SOIL & TESTING, INC.

Figure:
4

Photograph 1- Photograph looking west in High Head Pump Station. Used oil 240 gallon AST. Note no surficial staining was observed.

Photograph 2- Photograph looking southeast showing 5 gallon bucket behind 240 gallon AST located in High Head Pump Station.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>5 |

Photograph 3- Photograph showing surficial staining under raised deck for pumps located at High Head Pump Station.

Photograph 4- Photograph showing staining on pump equipment located in High Head Pump Station.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>6 |

Photograph 5- View showing well heads located on northern portion of High Head Pump Station.

Photograph 6- Photograph showing pumps and raised deck located at High Head Pump Station.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>7 |

Photograph 7- View of 500 gallon AST and two
55-gallon drums located in the High Head Pump Station.
AST and drums labeled as new oil. No surficial staining was noted.

Photograph 8- View of entrance gate and power pole
with transforms located at the High Head Pump.

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| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-1<br>Scale: Not To Scale | Figure:<br>8 |

Photograph 9- View looking northwest at Low Head Pump Station of three pumps and utility vaults.

Photograph 10- View of blow off valves located in Low Head Pump Station.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>9 |

Photograph 11- View of 5-gallon bucket in Low Head Pump Station.

Photograph 12- View looking south toward Low Head pump station. Note power pole with transformers.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>10 |

Photograph 13- Typical site conditions located along access roads.

Photograph 14- Photograph showing underground vaults located south of Low Head Pump Station.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>11 |

Photograph 15- Showing high pressure gas lines.

Photograph 16- Photograph showing access road
with Roll Reservoir and Police firing range in background.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>12 |

Photograph 17- Underground vaults and blow-off valves.

Photograph 18- Photograph showing typical vegetation.

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| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>13 |

Photograph 19- Photograph showing typical site vegetation.

Photograph 20- Photograph showing typical site vegetation.

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|---|---|---|---|
| SOUTHERN CALIFORNIA SOIL & TESTING, INC. | SITE PHOTOGRAPHS<br>870-2 PUMP STATION<br>Jamul, California | Date: 11/2013<br>By: BEV<br>Job No.: 1311158-01<br>Scale: Not To Scale | Figure:<br>14 |

APPENDIX A

# RESUME OF ENVIRONMENTAL PROFESSIONAL

# DOUGLAS A. SKINNER, CEG, PG

## Principal Geologist

### SUMMARY

As a Geologist with Southern California Soil and Testing, Inc. since 1999, Mr. Skinner provides consulting and technical services as a project manager, and senior geologist for investigation and reporting efforts at sites impacted by petroleum hydrocarbons, heavy metals, and pesticides. As an environmental professional, he has hands on experience in the installation groundwater monitoring and remediation wells, collecting soil and water samples in many different types of environments, planning and implementing sampling protocols, data interpretation and reporting. He has 6 years of environmental project management experience, and over 12 years professional geologic experience. Mr. Skinner has experience in planning, implementing and evaluating Phase I and Phase II environmental assessments in commercial real estate transactions.

### EDUCATION

1996 Bachelor of Science, Geology (Environmental Emphasis), Brigham Young University, Provo, Utah.

1996 Bachelor of Science, Geography (Urban Planning and Resource Management Emphasis), Brigham Young University, Provo, Utah

### REGISTRATION/CERTIFICATES

Professional Geologist No. 7971, State of California
Certified Engineering Geologist No. 2472, State of California

### WORK HISTORY

**1999 to 2006 Senior Geologist, Senior Project Manager**
**2008 to Present Southern California Soil & Testing, Inc.**

Supervised numerous environmental and geotechnical engineering projects. Managed projects from initial client contact to report submittal including project scope development, proposal and budget development, obtaining required permits, equipment scheduling, data analysis and report preparation.

**2006 to 2008** **Staff/Project Geologist**
**Petra Geotechnical, Inc.**

Planned, implemented, and managed environmental site investigations and remediation projects. Managed projects from initial client contact to report submittal including project scope development, proposal and budget development, obtaining required permits, equipment scheduling, data analysis and report preparation.

**1996** **Geologist**
**U.S Bureau of Land Management**

Worked as a geologist on the Abandoned Mine Inventory and Location Team. Performed field location of abandoned mines in wilderness areas within the State of Utah. Performed initial geologic and environmental inventories at abandoned mine sites. Created photographic and written documentation of observations. Mapped locations using GPS and USGS Maps. Compiled data into digitized database.

**REPRESENTATIVE PROJECTS**

Old Oak Ranch, Lakeside, CA. Conducted Phase I and Phase II environmental site assessment on multi-acre site formerly used for agricultural purposes. Subject property was to be developed for single family residences. Evaluated environmental concerns regarding herbicide, pesticide, and petroleum product soil contamination.

Renaissance at North Park, El Cajon, CA. Conducted Phase I and Phase II environmental site assessments on a one block area of downtown El Cajon consisting of an abandoned bowling alley as well as many other commercial businesses. Subject property was to be developed as mixed use residential and commercial development. Several significant potential recognized environmental concerns on the subject property and adjacent properties were identified and evaluated during the Phase I and Phase II process.

Lake Rancho Viejo, Pala Mesa Village, CA. Conducted Phase I and Phase II environmental site assessments and evaluated environmental concerns on a multi-acre property bisected by the Interstate 15 corridor. Site reconnaissance was conducted over several days and involved coordination of several different property owners. Subject property was to be developed as a large scale residential housing tract.

The Meadows, Del Mar, CA. Conducted Phase I environmental site assessment on a proposed multi-acre residential development. Subject site consisted of undeveloped parcel as well as graded lots.

The Bridges - Lots 87, 88, and 89, Del Mar, CA. Conducted Phase I environmental site assessment on three graded residential lots. Phase I was conducted as part of a real estate transaction.

Schofield Property, Rancho Santa Fe, CA. Conducted Phase I and Phase II environmental site assessment on multi-acre site formerly used for agricultural purposes. Subject property was to be developed for single family residences. Evaluated environmental concerns regarding herbicide, pesticide, and petroleum product soil contamination.

Sherwood Ridge, Lots 2 through 15, Valley Center, CA. Conducted Phase I environmental site assessment on fourteen graded, undeveloped residential lots. Phase I was conducted as part of a real estate transaction.

Emerald Drive, Oceanside, CA. Conducted Phase I and Phase II environmental site assessment on multi-acre site formerly used for agricultural purposes. Subject property was to be developed for single family residences. Evaluated environmental concerns regarding herbicide, pesticide, and petroleum product soil contamination.

Villa Royale Apartments, El Cajon, CA. Conducted Phase I environmental site assessment on multi-unit apartment complex. Phase I was conducted as part of a real estate transaction.

Loves Restaurant, Mission Valley, CA. Conducted Phase I environmental site assessment on a vacant commercial restaurant site. Evaluated potential environmental concerns related to adjacent underground storage tanks and illicit dumping. Phase I was conducted as part of a real estate transaction.

The Cove, 7-Acre Vernal Pool Site, San Jacinto, CA. Conducted Phase I environmental site assessment on an undeveloped formerly agricultural site. Phase I was conducted as part of a property transfer.

APPENDIX B

# HISTORICAL AERIAL PHOTOGRAPHS/TOPOGRAPHIC MAPS

**870-2 Pump Station**
Roll Reservoir
Jamul, CA 91935

Inquiry Number: 3775911.5
November 07, 2013

# The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

# EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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## Date EDR Searched Historical Sources:

Aerial Photography November 07, 2013

## Target Property:

Roll Reservoir

Jamul, CA 91935

| ***Year*** | ***Scale*** | ***Details*** | ***Source*** |
|---|---|---|---|
| 1953 | Aerial Photograph. Scale: 1"=500' | Flight Year: 1953 | Park |
| 1964 | Aerial Photograph. Scale: 1"=500' | Flight Year: 1964 | Cartwright |
| 1971 | Aerial Photograph. Scale: 1"=500' | Flight Year: 1971<br>Best Copy Available from original source | USGS |
| 1980 | Aerial Photograph. Scale: 1"=500' | Flight Year: 1980 | AMI |
| 1990 | Aerial Photograph. Scale: 1"=500' | Flight Year: 1990 | USGS |
| 1994 | Aerial Photograph. Scale: 1"=500' | /DOQQ - acquisition dates: 1994 | EDR |
| 2005 | Aerial Photograph. Scale: 1"=500' | Flight Year: 2005 | EDR |
| 2009 | Aerial Photograph. Scale: 1"=500' | Flight Year: 2009 | EDR |
| 2010 | Aerial Photograph. Scale: 1"=500' | Flight Year: 2010 | EDR |
| 2012 | Aerial Photograph. Scale: 1"=500' | Flight Year: 2012 | EDR |

INQUIRY #: 3775911.5
YEAR: 1953
= 500'
N

INQUIRY #: 3775911.5
YEAR: 1964
= 500'
N

INQUIRY #: 3775911.5
YEAR: 1971
= 500'
N

INQUIRY #: 3775911.5
YEAR: 1980
= 500'
N

INQUIRY #: 3775911.5
YEAR: 1990
= 500'
N

INQUIRY #: 3775911.5
YEAR: 1994
= 500'
N

INQUIRY #: 3775911.5
YEAR: 2005
= 500'
N

INQUIRY #: 3775911.5
YEAR: 2009
= 500'
N

INQUIRY #: 3775911.5
YEAR: 2010
= 500'
N

INQUIRY #: 3775911.5
YEAR: 2012
= 500'
N

**870-2 Pump Station**
Roll Reservoir
Jamul, CA 91935

Inquiry Number: 3775911.4
November 05, 2013

# EDR Historical Topographic Map Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

# EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

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## Historical Topographic Map

## Unsurveyed Area on the Topographic Map

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: CUYAMACA<br>MAP YEAR: 1903<br><br>SERIES: 30<br>SCALE: 1:125000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

## Historical Topographic Map

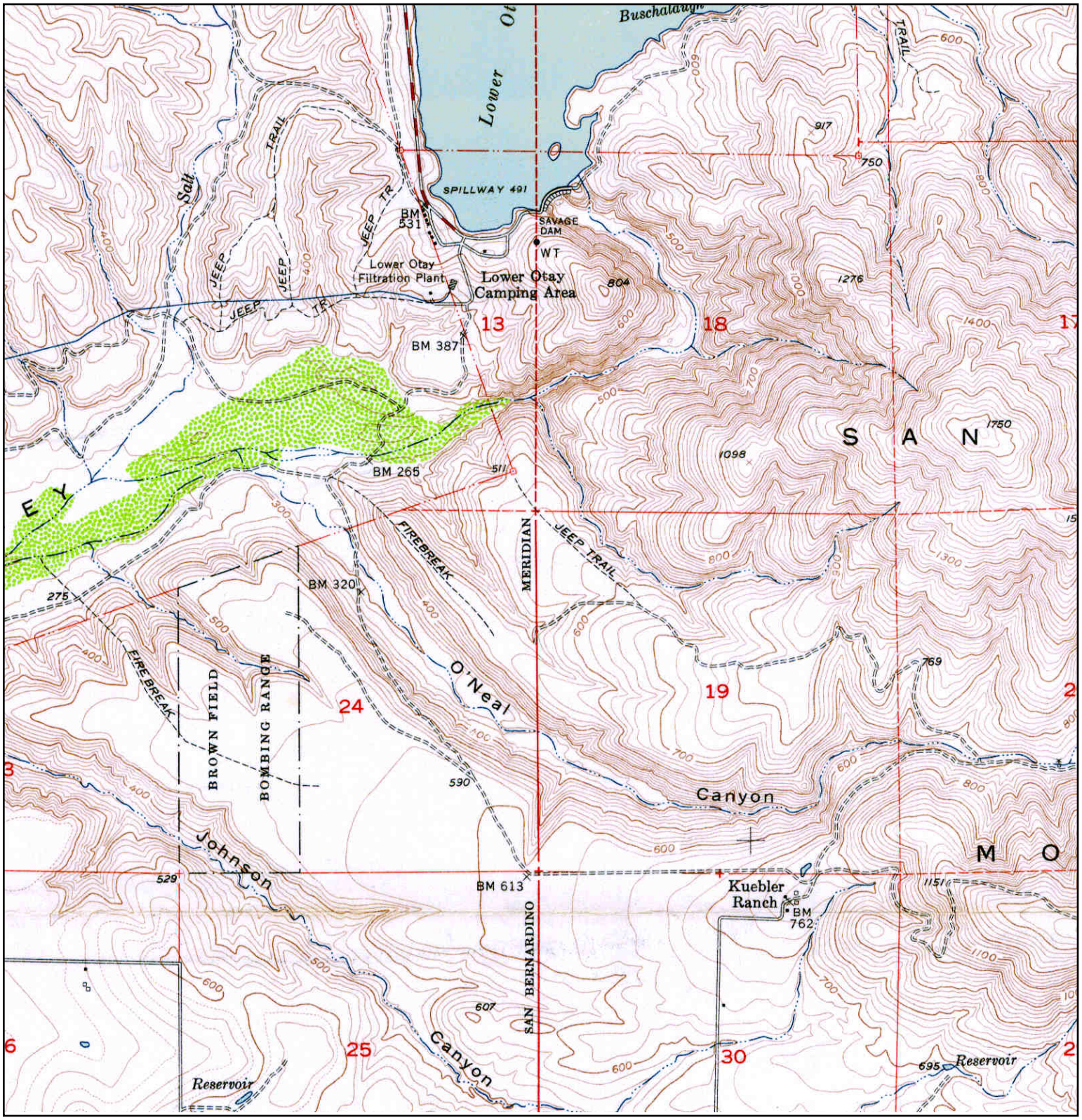
## Unsurveyed Area on the Topographic Map

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: SOUTHERN CA SHEET 2<br>MAP YEAR: 1904<br><br>SERIES: 60<br>SCALE: 1:250000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: JAMUL<br>MAP YEAR: 1943<br><br>SERIES: 15<br>SCALE: 1:62500 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map



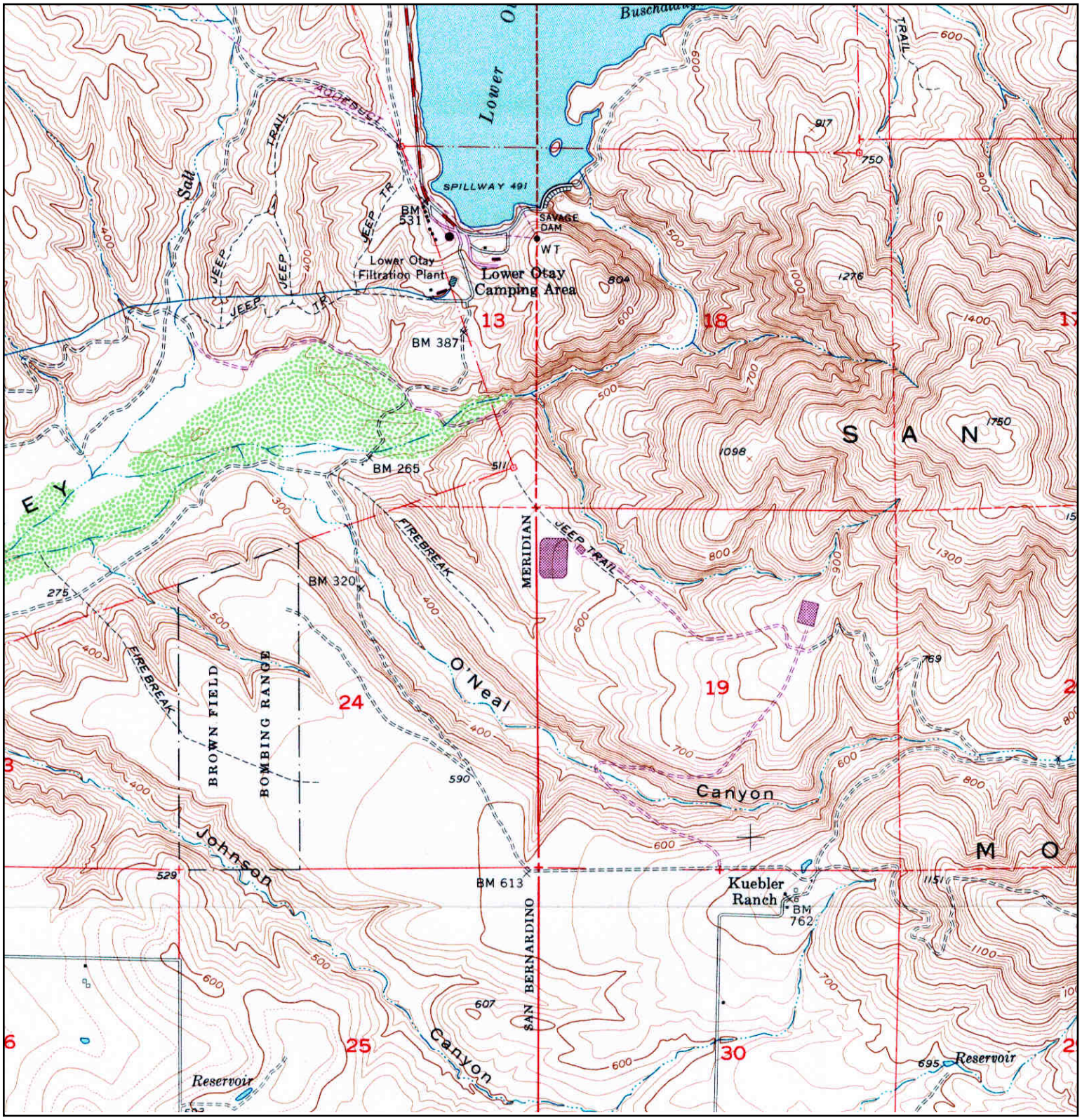

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: OTAY MESA<br>MAP YEAR: 1955<br><br>SERIES: 7.5<br>SCALE: 1:24000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map

# Unsurveyed Area on the Topographic Map

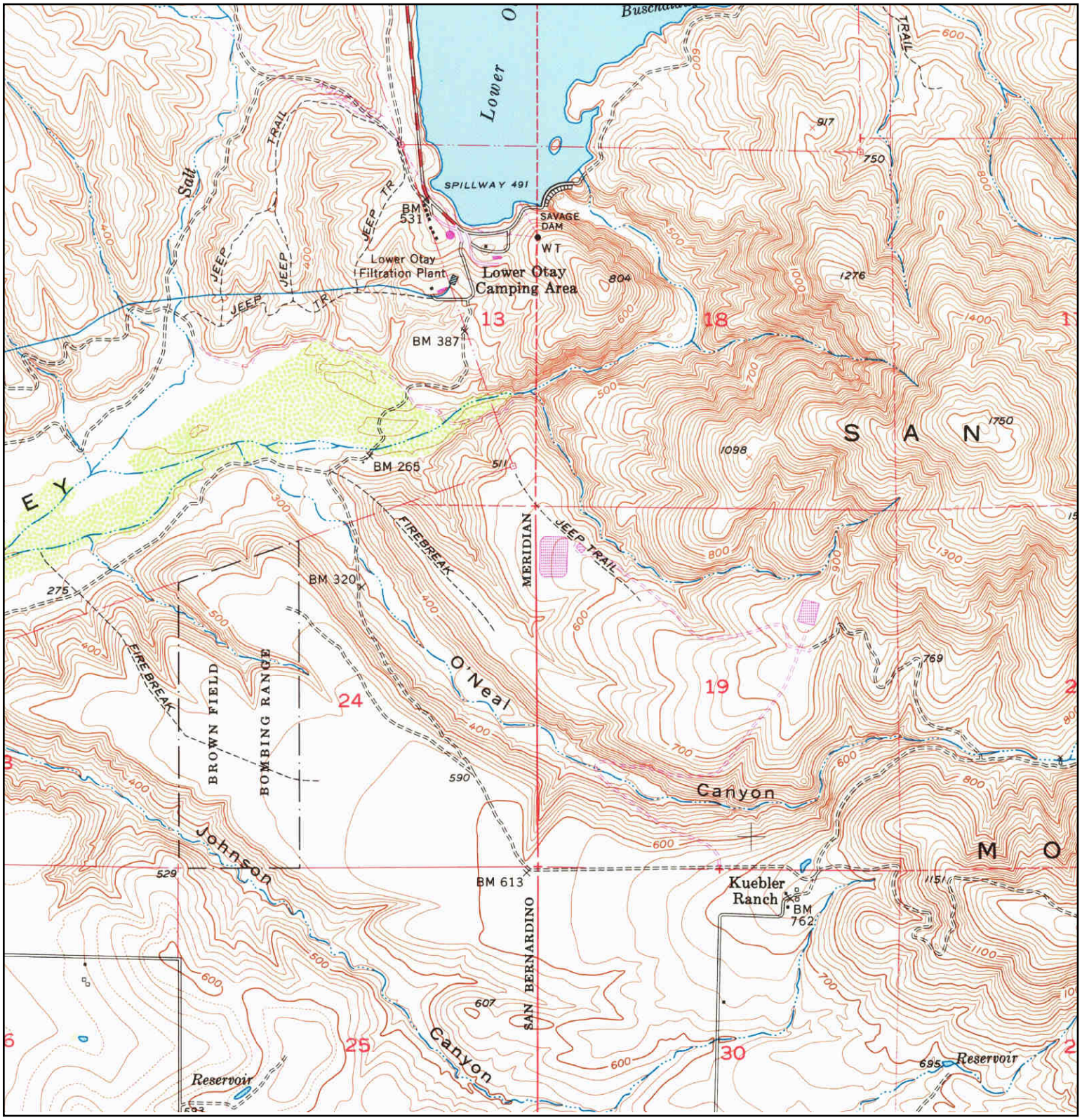
| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: JAMUL<br>MAP YEAR: 1955<br><br>SERIES: 15<br>SCALE: 1:62500 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map



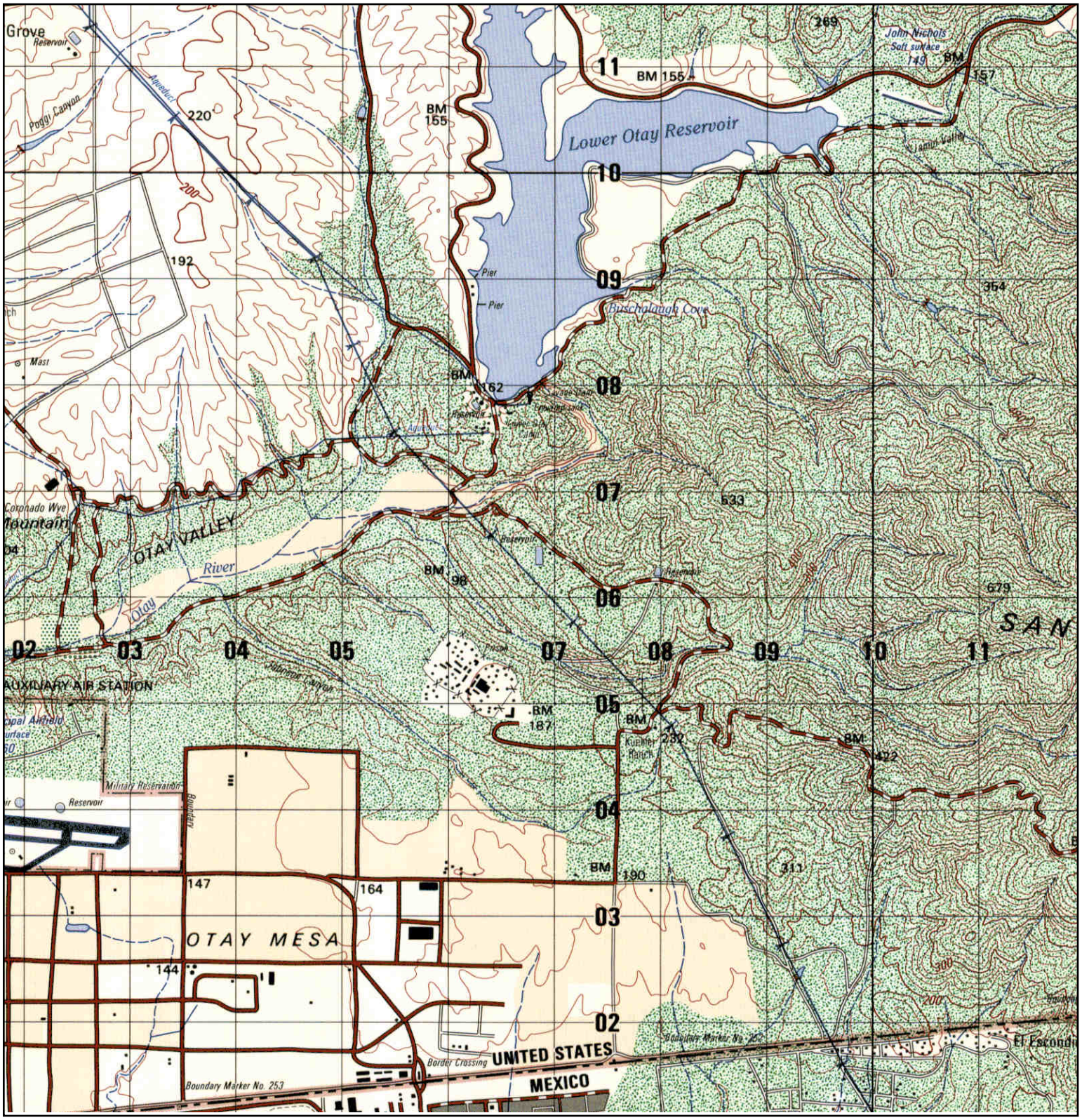

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: OTAY MESA<br>MAP YEAR: 1971<br>PHOTOREVISED FROM :1955<br>SERIES: 7.5<br>SCALE: 1:24000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map



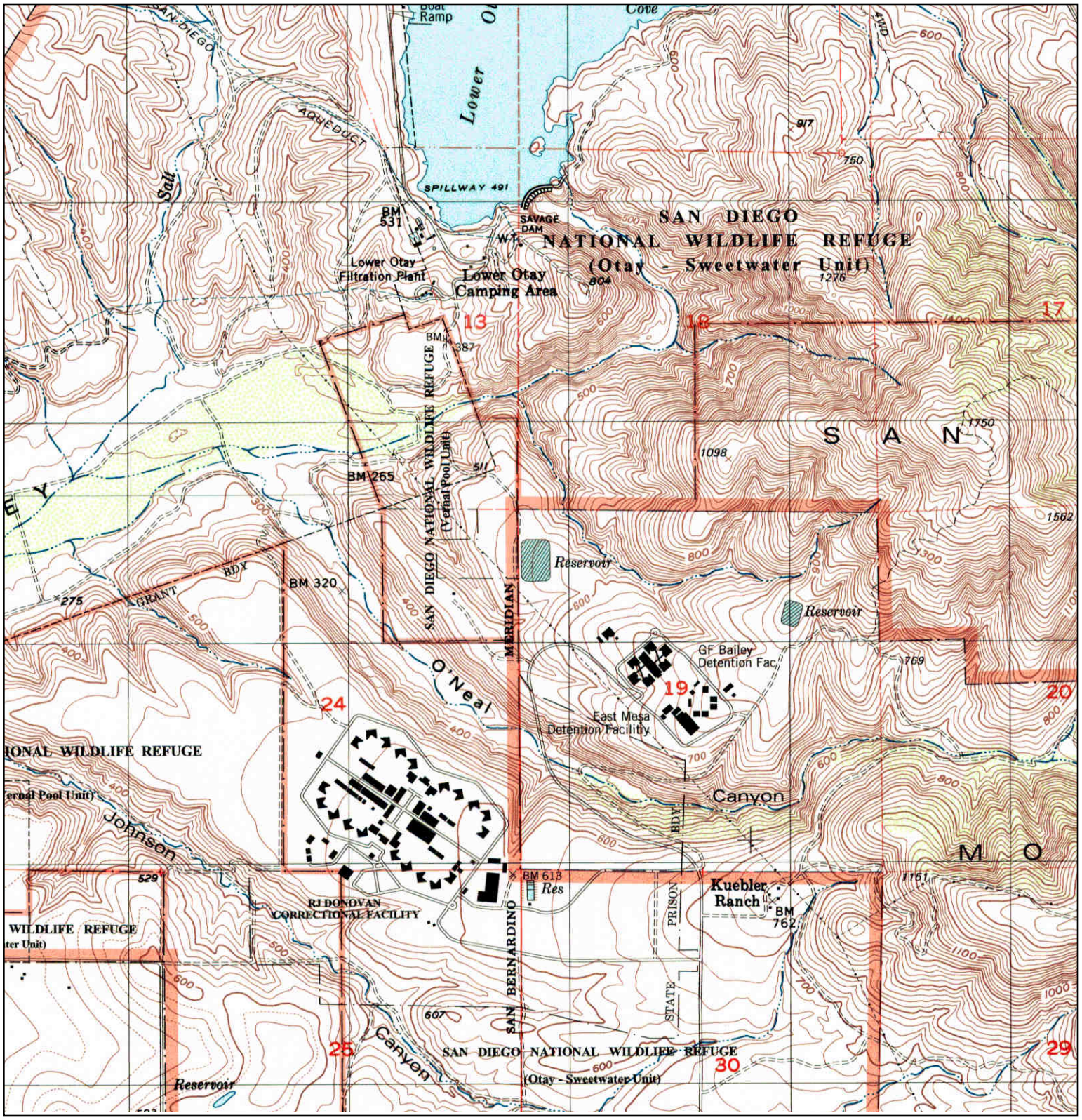

| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: OTAY MESA<br>MAP YEAR: 1975<br>PHOTOINSPECTED FROM : 1955<br>SERIES: 7.5<br>SCALE: 1:24000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map




| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: JAMUL<br>MAP YEAR: 1991<br><br>SERIES: 15<br>SCALE: 1:50000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# Historical Topographic Map




| | | | |
|---|---|---|---|
| N | TARGET QUAD<br>NAME: OTAY MESA<br>MAP YEAR: 1996<br><br>SERIES: 7.5<br>SCALE: 1:24000 | SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul, CA 91935<br>LAT/LONG: 32.5947 / -116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY#: 3775911.4<br>RESEARCH DATE: 11/05/2013 |

# EDR REPORT

## EDR Report (Provided on Compact Disc as a PDF Document)

**870-2 Pump Station**
Roll Reservoir
Jamul, CA 91935

Inquiry Number: 3775911.6
November 07, 2013

# The EDR-City Directory Image Report

Environmental Data Resources Inc

440 Wheelers Farms Road
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# TABLE OF CONTENTS

## SECTION

**Executive Summary**

**Findings**

**City Directory Images**

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## DESCRIPTION

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## RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

| *Year* | *Target Street* | *Cross Street* | *Source* |
|---|---|---|---|
| 2013 | ☑ | ☑ | Cole Information Services |
| 2008 | ☑ | ☑ | Cole Information Services |
| 2003 | ☑ | ☑ | Cole Information Services |
| 1999 | ☑ | ☑ | Cole Information Services |
| 1996 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1990 | ☐ | ☑ | Haines Criss-Cross Directory |
| 1985 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1980 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1976 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1970 | ☑ | ☑ | Haines Criss-Cross Directory |

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# FINDINGS

## TARGET PROPERTY STREET

Roll Reservoir
Jamul, CA 91935

| Year | CD Image | Source | |
|---|---|---|---|
| **ALTA RD** | | | |
| 2013 | pg A1 | Cole Information Services | |
| 2008 | pg A3 | Cole Information Services | |
| 2003 | pg A5 | Cole Information Services | |
| 1999 | pg A7 | Cole Information Services | |
| 1996 | pg A9 | Haines Criss-Cross Directory | |
| 1990 | - | Haines Criss-Cross Directory | Street not listed in Source |
| 1985 | pg A12 | Haines Criss-Cross Directory | |
| 1980 | pg A13 | Haines Criss-Cross Directory | |
| 1976 | pg A14 | Haines Criss-Cross Directory | |
| 1970 | pg A16 | Haines Criss-Cross Directory | |

# FINDINGS

## CROSS STREETS

| *Year* | *CD Image* | *Source* | |
|---|---|---|---|
| **WUESTE RD** | | | |
| 2013 | pg. A2 | Cole Information Services | |
| 2008 | pg. A4 | Cole Information Services | |
| 2003 | pg. A6 | Cole Information Services | |
| 1999 | pg. A8 | Cole Information Services | |
| 1996 | pg. A10 | Haines Criss-Cross Directory | |
| 1990 | pg. A11 | Haines Criss-Cross Directory | |
| 1985 | - | Haines Criss-Cross Directory | Street not listed in Source |
| 1980 | - | Haines Criss-Cross Directory | Target and Adjoining not listed in Source |
| 1976 | pg. A15 | Haines Criss-Cross Directory | |
| 1970 | - | Haines Criss-Cross Directory | Target and Adjoining not listed in Source |

# City Directory Images

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information Services |

# ALTA RD 2013

| | |
|---|---|
| 446 | CANTEEN CORRECTIONS |
| | CCA SAN DIEGO DETENTION CENTER |
| | COUNTY OF SAN DIEGO |
| | GEORGE F BAILEY DETENTION |
| 468 | RECYCLING SERVICES INC |
| 480 | DONOVAN CAFE |
| | SU CASA |
| 633 | MARIO DIAZ |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information Services |

## WUESTE RD 2013

| | |
|---|---|
| 2165 | OTAY LAKE |
| 2167 | OCCUPANT UNKNOWN |
| 2270 | SEAN FLYNN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information Services |

# ALTA RD 2008

| | |
|---|---|
| 446 | C C A SAN DIEGO CORRECTIONAL FACILIT |
| | CANTEEN CORRECTIONS |
| | CORRECTIONS CORP OF AMERICA |
| | EAST MESA DETENSION FACILITY |
| | SAN DIEGO COUNTY CU |
| 448 | CENTEX CONSTRUCTION GROUP INC |
| 480 | CA DEPT OF CORRECTIONS |
| | DONOVANS CAFE |
| | R J DONOVAN CF |
| | RICHARD J DONOVAN CORRECTIONAL FACIL |
| 633 | MARIO DIAZ |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information Services |

## WUESTE RD 2008

| | |
|---|---|
| 2167 | OCCUPANT UNKNOWN |
| 2270 | WILLIAM LIPOWCAN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information Services |

# ALTA RD 2003

| | |
|---|---|
| 446 | CLASSROOM E M F |
| | EAST MESA DETENTION FACIL |
| | SAN DIEGO COUNTY OF SHRF DEPT |
| 480 | CMT BLUES LLC |
| | DONOVANS CAFE |
| 509 | TEODORO MARTIN |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information Services |

## WUESTE RD 2003

| | |
|---|---|
| 2167 | OCCUPANT UNKNOWN |
| 2270 | WILLIAM LIPOWCAN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information Services |

# ALTA RD 1999

| | |
|---|---|
| 446 | CCA SAN DIEGO DETENTION CENTER |
| | SAN DIEGO COUNTY OF SHERIFFS DEPARTMENT |
| 480 | C M T BLUES INCORPORATED |
| | SU CASA |
| 504 | ROLANDO DURAZO |
| | ROLANDO DURAZO |
| 633 | MARIO DIAZ |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information Services |

## WUESTE RD 1999

| | |
|---|---|
| 1750 | ARCO OLYMPIC TRAINING CENTER |
| 2167 | OCCUPANT UNKNOWN |
| 2270 | WILLIAM LIPOWCAN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

**ALTA RD 1996**

# ALTA RD (91) 92173
# SAN YSIDRO

WEALTH CODE 1.0

| | | | |
|---|---|---|---|
| 446 | ★SD CO SHRFF JAIL | 661-2620 | 4 |
| | ★SD MISDEMEANR DTNTN | 661-7205 | +5 |
| 480 | ★INTL BREWING&MFG | 661-8393 | +5 |
| | ★SOUTHPORT MACHINE | 661-5543 | +5 |
| | ★SU CASA | 661-6865 | 1 |
| 511 | XXXX | 00 | |
| 513 | ★R&F STEEL INC | 661-7231 | 1 |
| ★ | 6 BUS 1 RES | 3 NEW | |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

**WUESTE RD 1996**

WUESTE RD (90) 91915
CHULA VISTA

WEALTH CODE 6.0

| | | | |
|---|---|---|---|
| 2167 | XXXX | | 00 |
| 2270 | SQUIER Gloria | | 427-2590 |
| | SQUIER Larry | | 427-2590 |
| ★ | 0 BUS | 3 RES | 0 NEW |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

**WUESTE RD 1990**

| | | |
|---|---|---|
| 1191 | JOHNSON Claybourne | 262-6382 |
| 1202 | XXXX | 00 |
| 1208 | XXXX | 00 |
| 1211 | XXXX | 00 |
| 1214 | XXXX | 00 |
| 1255 | HEYER Warren | 262-6624 |
| ★ | 0 BUS 14 RES | 0 NEW |

## +WUESTE RD (90) 92011
## CHULA VISTA

| | | |
|---|---|---|
| 2167 | ★KRUSE CONCESSIONS | 420-6655 +0 |
| ★ | 1 BUS 0 RES | 1 NEW |

## WUNDERLIN AV 92114
## SAN DIEGO

| | | |
|---|---|---|
| 6030 | CHAMBERS M Rev | 266-8506 6 |
| 6035 | XXXX | 00 |
| 6042 | NARVAEZ R | 527-1652 +0 |
| 6048 | XXXX | 00 |
| 6052 | XXXX | 00 |
| 6055 | XXXX | 00 |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

**ALTA RD 1985**

| | | | |
|---|---|---|---|
| 4514 | HUNT STEPHEN | 461-8388 | |
| 4515 | NOLAN JAMES P | 697-9338 | 3 |
| 4517 | XXXX | 00 | |
| 4525 | FAUROTE B L | 698-6008 | +5 |
| 4526 | XXXX | 00 | |
| 4531 | KAMPHUIS JAMES | 698-0219 | 1 |
| 4538 | XXXX | 00 | |
| ★ | 0 BUS 13 RES | 1 NEW | |

## ALTA RD 92073 SAN YSIDRO

| | | | |
|---|---|---|---|
| 504 | XXXX | 00 | |
| 511 | BAY VIEW FARMS | 690-5086 | +5 |
| | NUNO JESUS R | 690-2520 | 4 |
| 513 | BAYVIEW FARMS | 690-2080 | 4 |
| ★ | 2 BUS 2 RES | 1 NEW | |

## ALTA TER 92041 LA MESA

| | | | |
|---|---|---|---|
| 10202 | XXXX | 00 | |
| 10208 | GODING RANDY F | 697-2088 | 2 |
| 10209 | PIERCE JOE | 460-6779 | 8 |
| 10214 | PRICE PEGGY | 464-5031 | 8 |
| 10217 | DAYMIA HANI | 697-3992 | 2 |
| 10223 | XXXX | 00 | |
| ★ | 0 BUS 6 RES | 0 NEW | |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

**ALTA RD 1980**

| | | |
|---|---|---|
| 4515 | CRESPIN THERESA | 466-8150 9 |
| 4517 | XXXX | 00 |
| 4525 | EATON B L | 460-1107 9 |
| 4526 | SMITH R M | 697-8676 9 |
| 4531 | XXXX | 00 |
| 4538 | XXXX | 00 |
| ★ | 0 BUS 12 RES | 3 NEW |

## ALTA RD 92011 CHULA VISTA

| | | |
|---|---|---|
| 504 | LOPEZ AL | 427-9217 8 |
| 511 | LOPEZ AL | 427-8252 +0 |
| ★ | 0 BUS 2 RES | 1 NEW |

## ALTA TER 92041 LA MESA

| | | |
|---|---|---|
| 10202 | BRADFORD DAVID N | 466-9861 8 |
| 10208 | GODING RANDY F | 461-8604 7 |
| 10209★ | **KITCHEN KRAFT** | **462-2930+0** |
| | PIERCE JOE | 460-6779 8 |
| 10214 | PRICE THOS B | 464-5031 8 |
| 10217 | BOSTROM RICK | 461-0196 9 |
| 10223 | ANDERSON DOUGLAS C | 461-5173 7 |
| ★ | 1 BUS 6 RES | 1 NEW |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

**ALTA RD 1976**

4509 GILL DONALD B 469-6953+6
4511 CLEVENGER DOUG 462-9264+6
4514 HUNT STEPHEN 461-8388 5
4515 SMITHSON CURTIS L 460-1554 4
4517 XXXX 00
4526 LEWIS BARRY 463-3970+6
4538 PEARSON MARK R 464-8384+6
* 0 BUS 11 RES 5 NEW

ALTA RD 92011 CHULA VISTA

504 XXXX 00
511 DANIEL ROLAND F 422-5635
* 0 BUS 2 RES 0 NEW

ALTA BAHIA CT 92109 SAN DIEGO

PACIFIC BEACH AREA

5302 WILHELMS MENO L 488-4100
5312 REZNIK THEODORE 488-1635 4
5315 HANSEN DEAN H 488-1168
5322 SMERDON WM N 488-4540 0
5327 JOHNSON STANLEY J 488-8564
*NORTH CO ENTERPRISE 488-2525+6
5330 SMERDON D L 488-6162 4

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

## WUESTE RD 1976

WRIGHTWOOD RD 92054 OCEANSIDE

NO # SAKELARI JAS 758-0049
* 0 BUS 1 RES 0 NEW

+WUESTE RD 92010 CHULA VISTA

2085 DEMITRAKOS JAS 426-2578+6
* 0 BUS 1 RES 1 NEW

WULFF 92069 SAN MARCOS

818 KUNZ LEWIS B 744-1269
819 CONDER ROY R 744-2703
830 SMITH JAS L 744-0085
831 NICOLULIS HARRY P 744-2284 3
PAUL HARRY 744-2284 3
843 WALTERS JOHN D 744-2716 5
854 CAMPION GILLIAN E 744-1882 0
WOOD WINIFRED 744-1882+6

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

**ALTA RD 1970**

ALTA LN 92041 LA MESA

| | | |
|---|---|---|
| 4501 | HOLOBOFF SAM | 463-1992 |
| 4503 | KNAPP PIERCE S | 466-2936 |
| 4505 | SMALLWOOD ARABELLE | 463-6885 |
| 4507 | INMAN KRIS | 461-3473+0 |
| 4509 | SMALL O EVELYN | 466-6702 |
| 4511 | HALL FLORA C MRS | 465-7475 |
| 4515 | LARKIN ALAN F | 463-8642 |
| 4517 | GRAHAM GRAY LEE | 466-0735+0 |
| | RAYBURN JOS H | 466-0735+0 |
| 4526* | LAMESA ADVTSG SPCLT | 461-1793+0 |
| 4538 | SPERRY JAY V | 466-5188 |

* 1 BUS 10 RES 4 NEW

ALTA RD 92011 CHULA VISTA

| | | |
|---|---|---|
| 504 | DOHERR TED JR | 422-5649+0 |
| 511 | DANIEL ROLAND F | 422-5635 |

* 0 BUS 2 RES 1 NEW

ALTA BAHIA CT 92109 PACIFIC BCH

P.O. ADDRESS SAN DIEGO, CALIF.

| | | |
|---|---|---|
| 5302 | WILHELMS MERO I | 488-4100 |
| 5312 | RZEZNIK THEODORE | 488-1635 |
| 5315 | HANSEN DEAN H | 488-1168 |
| 5322 | SMERDON WM N | 488-4540+0 |
| 5327 | JOHNSON STANLEY J | 488-8564 |
| 5330 | ODAY PATRICIA | 488-7196 |
| | SHONTS ELIZABETH | 488-7196 |
| 5355 | BELL CORA A | 488-3969 |
| | WEAVER KATHERINE S | 488-3969 |

**870-2 Pump Station**
Roll Reservoir
Jamul, CA 91935

Inquiry Number: 3775911.2s
November 04, 2013

# The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

# TABLE OF CONTENTS


| SECTION | PAGE |
|---|---|
| Executive Summary | ES1 |
| Overview Map | 2 |
| Detail Map | 3 |
| Map Findings Summary | 4 |
| Map Findings | 8 |
| Orphan Summary | 13 |
| Government Records Searched/Data Currency Tracking | GR-1 |

## GEOCHECK ADDENDUM

| | |
|---|---|
| Physical Setting Source Addendum | A-1 |
| Physical Setting Source Summary | A-2 |
| Physical Setting SSURGO Soil Map | A-5 |
| Physical Setting Source Map | A-10 |
| Physical Setting Source Map Findings | A-12 |
| Physical Setting Source Records Searched | A-13 |


***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.


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# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

**TARGET PROPERTY INFORMATION**

**ADDRESS**

ROLL RESERVOIR
JAMUL, CA 91935

**COORDINATES**

| | |
|---|---|
| Latitude (North): | 32.5947000 - 32˚ 35' 40.92'' |
| Longitude (West): | 116.9268000 - 116˚ 55' 36.48'' |
| Universal Tranverse Mercator: | Zone 11 |
| UTM X (Meters): | 506869.3 |
| UTM Y (Meters): | 3606169.5 |
| Elevation: | 557 ft. above sea level |

**USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY**

| | |
|---|---|
| Target Property Map: | 32116-E8 OTAY MESA, CA MX02 |
| Most Recent Revision: | 1991 |

**AERIAL PHOTOGRAPHY IN THIS REPORT**

| | |
|---|---|
| Photo Year: | 2012 |
| Source: | USDA |

**TARGET PROPERTY SEARCH RESULTS**

The target property was not listed in any of the databases searched by EDR.

**DATABASES WITH NO MAPPED SITES**

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

**STANDARD ENVIRONMENTAL RECORDS**

***Federal NPL site list***

NPL---------- National Priority List

# EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

***Federal Delisted NPL site list***

Delisted NPL ..... National Priority List Deletions

***Federal CERCLIS list***

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

***Federal CERCLIS NFRAP site List***

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

***Federal RCRA CORRACTS facilities list***

CORRACTS ..... Corrective Action Report

***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

***Federal RCRA generators list***

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

***Federal institutional controls / engineering controls registries***

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

***Federal ERNS list***

ERNS ..... Emergency Response Notification System

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF ..... Solid Waste Information System

***State and tribal leaking storage tank lists***

SLIC ..... Statewide SLIC Cases
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

***State and tribal registered storage tank lists***

UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

# EXECUTIVE SUMMARY

***State and tribal voluntary cleanup sites***

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Brownfield lists***

US BROWNFIELDS ..... A Listing of Brownfields Sites

***Local Lists of Landfill / Solid Waste Disposal Sites***

ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

***Local Lists of Hazardous waste / Contaminated Sites***

US CDL ..... Clandestine Drug Labs
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
Toxic Pits ..... Toxic Pits Cleanup Act Sites
CDL ..... Clandestine Drug Labs
San Diego Co. HMMD ..... Hazardous Materials Management Division Database
US HIST CDL ..... National Clandestine Laboratory Register

***Local Lists of Registered Storage Tanks***

CA FID UST ..... Facility Inventory Database
HIST UST ..... Hazardous Substance Storage Container Database
SWEEPS UST ..... SWEEPS UST Listing

***Local Land Records***

LIENS 2 ..... CERCLA Lien Information
LIENS ..... Environmental Liens Listing
DEED ..... Deed Restriction Listing

***Records of Emergency Release Reports***

HMIRS ..... Hazardous Materials Information Reporting System
CHMIRS ..... California Hazardous Material Incident Report System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing
SPILLS 90 ..... SPILLS 90 data from FirstSearch

***Other Ascertainable Records***

RCRA NonGen / NLR ..... RCRA - Non Generators

# EXECUTIVE SUMMARY

| | |
|---|---|
| DOT OPS | Incident and Accident Data |
| DOD | Department of Defense Sites |
| CONSENT | Superfund (CERCLA) Consent Decrees |
| ROD | Records Of Decision |
| UMTRA | Uranium Mill Tailings Sites |
| US MINES | Mines Master Index File |
| TRIS | Toxic Chemical Release Inventory System |
| TSCA | Toxic Substances Control Act |
| FTTS | FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) |
| HIST FTTS | FIFRA/TSCA Tracking System Administrative Case Listing |
| SSTS | Section 7 Tracking Systems |
| ICIS | Integrated Compliance Information System |
| PADS | PCB Activity Database System |
| MLTS | Material Licensing Tracking System |
| RADINFO | Radiation Information Database |
| FINDS | Facility Index System/Facility Registry System |
| RAATS | RCRA Administrative Action Tracking System |
| RMP | Risk Management Plans |
| CA BOND EXP. PLAN | Bond Expenditure Plan |
| UIC | UIC Listing |
| NPDES | NPDES Permits Listing |
| Cortese | "Cortese" Hazardous Waste & Substances Sites List |
| HIST CORTESE | Hazardous Waste & Substance Site List |
| CUPA Listings | CUPA Resources List |
| Notify 65 | Proposition 65 Records |
| DRYCLEANERS | Cleaner Facilities |
| WIP | Well Investigation Program Case List |
| ENF | Enforcement Action Listing |
| HAZNET | Facility and Manifest Data |
| EMI | Emissions Inventory Data |
| INDIAN RESERV | Indian Reservations |
| SCRD DRYCLEANERS | State Coalition for Remediation of Drycleaners Listing |
| MWMP | Medical Waste Management Program Listing |
| COAL ASH DOE | Steam-Electric Plant Operation Data |
| COAL ASH EPA | Coal Combustion Residues Surface Impoundments List |
| HWT | Registered Hazardous Waste Transporter Database |
| HWP | EnviroStor Permitted Facilities Listing |
| Financial Assurance | Financial Assurance Information Listing |
| LEAD SMELTERS | Lead Smelter Sites |
| 2020 COR ACTION | 2020 Corrective Action Program List |
| US AIRS | Aerometric Information Retrieval System Facility Subsystem |
| PRP | Potentially Responsible Parties |
| WDS | Waste Discharge System |
| EPA WATCH LIST | EPA WATCH LIST |
| US FIN ASSUR | Financial Assurance Information |
| PCB TRANSFORMER | PCB Transformer Registration Database |
| PROC | Certified Processors Database |

**EDR HIGH RISK HISTORICAL RECORDS**

***EDR Exclusive Records***

| | |
|---|---|
| EDR MGP | EDR Proprietary Manufactured Gas Plants |

# EXECUTIVE SUMMARY

EDR US Hist Auto Stat..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

**SURROUNDING SITES: SEARCH RESULTS**

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

**STANDARD ENVIRONMENTAL RECORDS**

***State- and tribal - equivalent NPL***

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, and dated 09/05/2013 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***BROWN FIELD BOMBING RANGE*** | ***2 MILES NORTHEAST OF OT*** | ***WSW 1/2 - 1 (0.869 mi.)*** | ***A2*** | ***9*** |

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 09/05/2013 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***BROWN FIELD BOMBING RANGE***<br>Status: Inactive - Action Required | ***2 MILES NORTHEAST OF OT*** | ***WSW 1/2 - 1 (0.869 mi.)*** | ***A2*** | ***9*** |

# EXECUTIVE SUMMARY

***State and tribal leaking storage tank lists***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 09/16/2013 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***EAST MESA DETENTION CENTER*** Status: Completed - Case Closed | ***446 ALTA RD*** | ***SE 1/8 - 1/4 (0.215 mi.)*** | ***1*** | ***8*** |

SAN DIEGO CO. SAM: The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

A review of the SAN DIEGO CO. SAM list, as provided by EDR, and dated 03/23/2010 has revealed that there is 1 SAN DIEGO CO. SAM site within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| ***EAST MESA DETENTION CENTER*** | ***446 ALTA RD*** | ***SE 1/8 - 1/4 (0.215 mi.)*** | ***1*** | ***8*** |

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Other Ascertainable Records***

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 12/31/2011 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

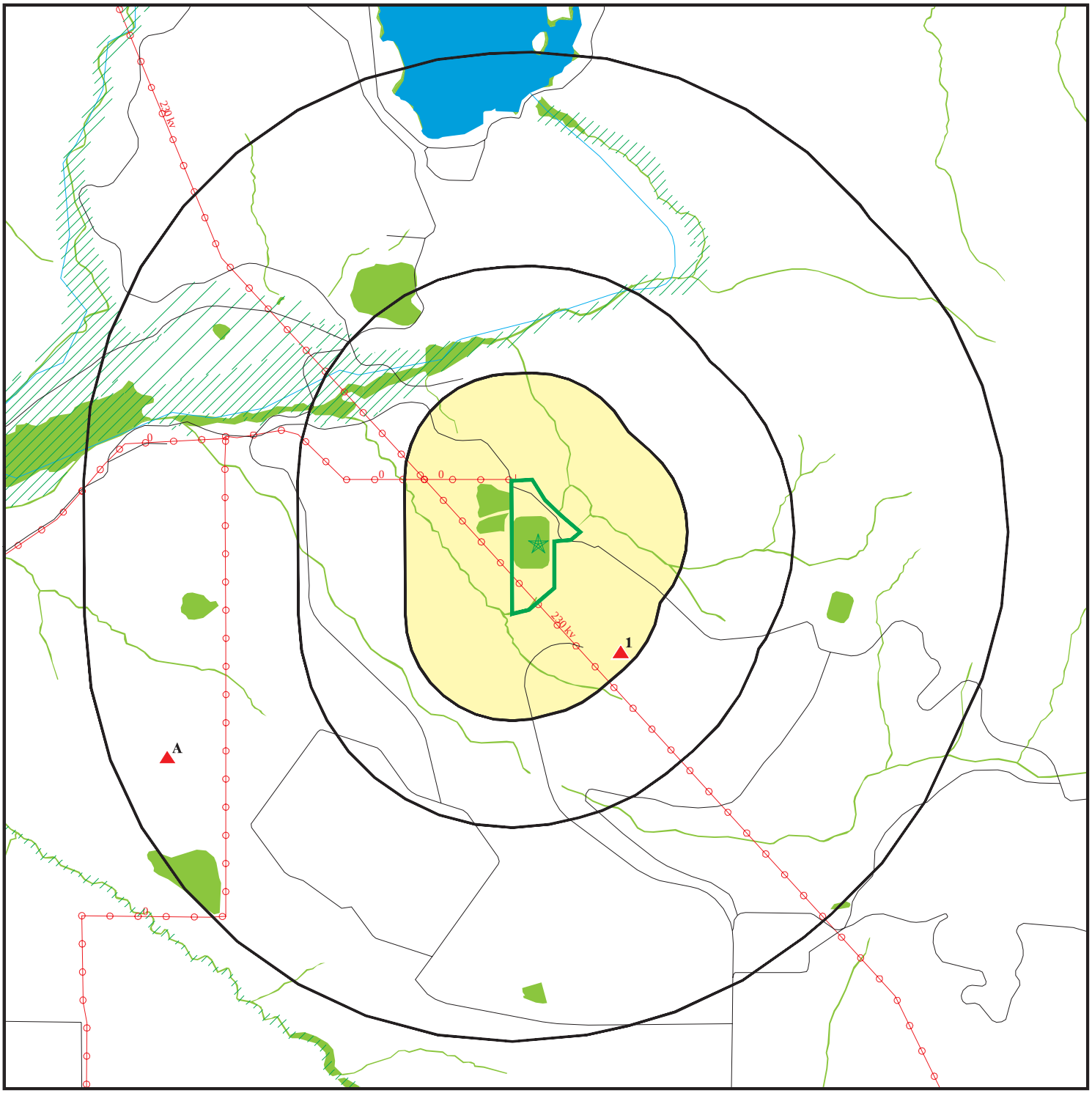
| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---|---|---|---|
| BROWN FIELD BOMBING RANGE | | WSW 1/2 - 1 (0.873 mi.) | A3 | 12 |

# EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

| Site Name | Database(s) |
|---|---|
| OTAY MESA CID DRUMS | CERCLIS |
| JAMUL BURNSITE | SWF/LF |
| OTAY WD 9-1 PUMP STATION | San Diego Co. HMMD |
| SDG&E - HARVEST GATE STATION | San Diego Co. HMMD |
| NELSON & SLOAN CO. | US MINES |

# OVERVIEW MAP - 3775911.2s




Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | |
|---|---|
| SITE NAME: 870-2 Pump Station | CLIENT: Southern CA Soil and Testing |
| ADDRESS: Roll Reservoir<br>Jamul CA 91935 | CONTACT: Doug Skinner<br>INQUIRY #: 3775911.2s |
| LAT/LONG: 32.5947 / 116.9268 | DATE: November 04, 2013 6:22 pm |

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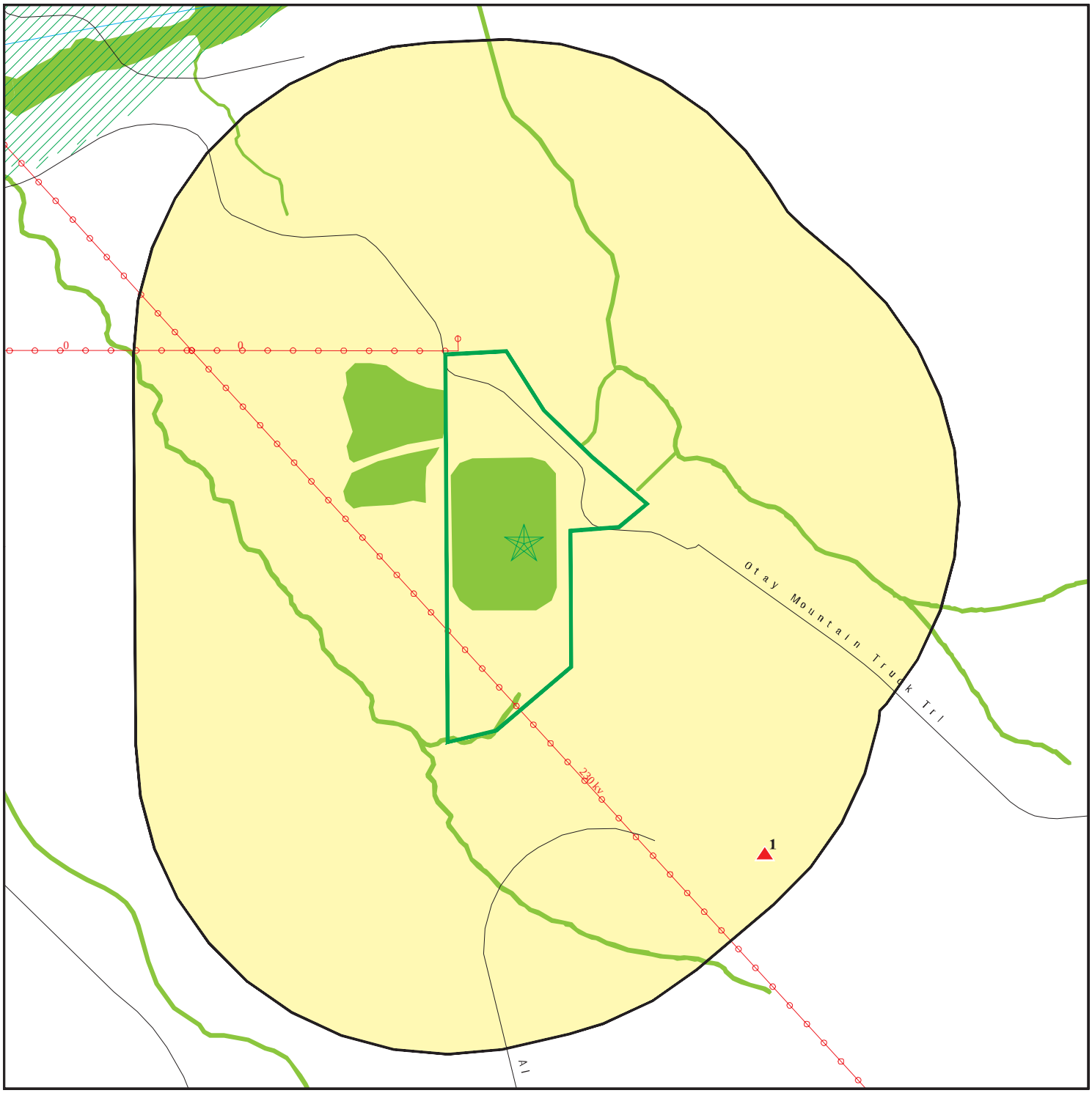
# DETAIL MAP - 3775911.2s




0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | |
|---|---|
| SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul CA 91935<br>LAT/LONG: 32.5947 / 116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY #: 3775911.2s<br>DATE: November 04, 2013 6:24 pm |

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# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| **STANDARD ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Federal NPL site list*** | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| ***Federal Delisted NPL site list*** | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal CERCLIS list*** | | | | | | | | |
| CERCLIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal CERCLIS NFRAP site List*** | | | | | | | | |
| CERC-NFRAP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA CORRACTS facilities list*** | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal RCRA non-CORRACTS TSD facilities list*** | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA generators list*** | | | | | | | | |
| RCRA-LQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-SQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-CESQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Federal institutional controls / engineering controls registries*** | | | | | | | | |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US INST CONTROL | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal ERNS list*** | | | | | | | | |
| ERNS | TP | | NR | NR | NR | NR | NR | 0 |
| ***State- and tribal - equivalent NPL*** | | | | | | | | |
| RESPONSE | 1.000 | | 0 | 0 | 0 | 1 | NR | 1 |
| ***State- and tribal - equivalent CERCLIS*** | | | | | | | | |
| ENVIROSTOR | 1.000 | | 0 | 0 | 0 | 1 | NR | 1 |
| ***State and tribal landfill and/or solid waste disposal site lists*** | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal leaking storage tank lists*** | | | | | | | | |
| LUST | 0.500 | | 0 | 1 | 0 | NR | NR | 1 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| SLIC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SAN DIEGO CO. SAM | 0.500 | | 0 | 1 | 0 | NR | NR | 1 |
| INDIAN LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal registered storage tank lists*** | | | | | | | | |
| UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| AST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| INDIAN UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***State and tribal voluntary cleanup sites*** | | | | | | | | |
| VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| INDIAN VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| **ADDITIONAL ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Local Brownfield lists*** | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Landfill / Solid Waste Disposal Sites*** | | | | | | | | |
| ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DEBRIS REGION 9 | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| WMUDS/SWAT | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SWRCY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HAULERS | TP | | NR | NR | NR | NR | NR | 0 |
| INDIAN ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Hazardous waste / Contaminated Sites*** | | | | | | | | |
| US CDL | TP | | NR | NR | NR | NR | NR | 0 |
| HIST Cal-Sites | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCH | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| Toxic Pits | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| CDL | TP | | NR | NR | NR | NR | NR | 0 |
| San Diego Co. HMMD | TP | | NR | NR | NR | NR | NR | 0 |
| US HIST CDL | TP | | NR | NR | NR | NR | NR | 0 |
| ***Local Lists of Registered Storage Tanks*** | | | | | | | | |
| CA FID UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| HIST UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| SWEEPS UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Local Land Records*** | | | | | | | | |
| LIENS 2 | TP | | NR | NR | NR | NR | NR | 0 |
| LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| DEED | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Records of Emergency Release Reports*** | | | | | | | | |
| HMIRS | TP | | NR | NR | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| CHMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| LDS | TP | | NR | NR | NR | NR | NR | 0 |
| MCS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS 90 | TP | | NR | NR | NR | NR | NR | 0 |
| ***Other Ascertainable Records*** | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| DOT OPS | TP | | NR | NR | NR | NR | NR | 0 |
| DOD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUDS | 1.000 | | 0 | 0 | 0 | 1 | NR | 1 |
| CONSENT | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TRIS | TP | | NR | NR | NR | NR | NR | 0 |
| TSCA | TP | | NR | NR | NR | NR | NR | 0 |
| FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| HIST FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| SSTS | TP | | NR | NR | NR | NR | NR | 0 |
| ICIS | TP | | NR | NR | NR | NR | NR | 0 |
| PADS | TP | | NR | NR | NR | NR | NR | 0 |
| MLTS | TP | | NR | NR | NR | NR | NR | 0 |
| RADINFO | TP | | NR | NR | NR | NR | NR | 0 |
| FINDS | TP | | NR | NR | NR | NR | NR | 0 |
| RAATS | TP | | NR | NR | NR | NR | NR | 0 |
| RMP | TP | | NR | NR | NR | NR | NR | 0 |
| CA BOND EXP. PLAN | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UIC | TP | | NR | NR | NR | NR | NR | 0 |
| NPDES | TP | | NR | NR | NR | NR | NR | 0 |
| Cortese | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HIST CORTESE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| CUPA Listings | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| Notify 65 | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| DRYCLEANERS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| WIP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ENF | TP | | NR | NR | NR | NR | NR | 0 |
| HAZNET | TP | | NR | NR | NR | NR | NR | 0 |
| EMI | TP | | NR | NR | NR | NR | NR | 0 |
| INDIAN RESERV | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCRD DRYCLEANERS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| MWMP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| COAL ASH DOE | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HWT | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| HWP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Financial Assurance | TP | | NR | NR | NR | NR | NR | 0 |
| LEAD SMELTERS | TP | | NR | NR | NR | NR | NR | 0 |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| US AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| PRP | TP | | NR | NR | NR | NR | NR | 0 |
| WDS | TP | | NR | NR | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| EPA WATCH LIST | TP | | NR | NR | NR | NR | NR | 0 |
| US FIN ASSUR | TP | | NR | NR | NR | NR | NR | 0 |
| PCB TRANSFORMER | TP | | NR | NR | NR | NR | NR | 0 |
| PROC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| **EDR HIGH RISK HISTORICAL RECORDS** | | | | | | | | |
| ***EDR Exclusive Records*** | | | | | | | | |
| EDR MGP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| EDR US Hist Auto Stat | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| EDR US Hist Cleaners | 0.250 | | 0 | 0 | NR | NR | NR | 0 |

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

**1 SE 1/8-1/4 0.215 mi. 1136 ft.** | **EAST MESA DETENTION CENTER**
**446 ALTA RD**
**SAN YSIDRO, CA 92173** | **LUST** | **S107619787**
**SAN DIEGO CO. SAM** | **N/A**

**Relative: Higher**

**Actual: 674 ft.**

LUST:

| | |
|---|---|
| Region: | STATE |
| Global Id: | T06019760128 |
| Latitude: | 32.591072 |
| Longitude: | -116.923493 |
| Case Type: | LUST Cleanup Site |
| Status: | Completed - Case Closed |
| Status Date: | 12/18/2007 |
| Lead Agency: | SAN DIEGO COUNTY LOP |
| Case Worker: | JC |
| Local Agency: | SAN DIEGO COUNTY LOP |
| RB Case Number: | Not reported |
| LOC Case Number: | 122765-001 |
| File Location: | Local Agency |
| Potential Media Affect: | Soil |
| Potential Contaminants of Concern: | Diesel |
| Site History: | Not reported |

Click here to access the California GeoTracker records for this facility:

Contact:

| | |
|---|---|
| Global Id: | T06019760128 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | JAMES CLAY |
| Organization Name: | SAN DIEGO COUNTY LOP |
| Address: | P.O. Box 129261 |
| City: | San Diego |
| Email: | james.clay@sdcounty.ca.gov |
| Phone Number: | Not reported |

Status History:

| | |
|---|---|
| Global Id: | T06019760128 |
| Status: | Completed - Case Closed |
| Status Date: | 12/18/2007 |
| Global Id: | T06019760128 |
| Status: | Open - Case Begin Date |
| Status Date: | 08/09/2005 |

Regulatory Activities:

| | |
|---|---|
| Global Id: | T06019760128 |
| Action Type: | Other |
| Date: | 01/01/1950 |
| Action: | Leak Reported |
| Global Id: | T06019760128 |
| Action Type: | Other |
| Date: | 01/01/1950 |
| Action: | Leak Stopped |
| Global Id: | T06019760128 |
| Action Type: | Other |
| Date: | 01/01/1950 |

**EAST MESA DETENTION CENTER (Continued)** **S107619787**

| | |
|---|---|
| Action: | Leak Began |
| Global Id: | T06019760128 |
| Action Type: | Other |
| Date: | 01/01/1950 |
| Action: | Leak Discovery |
| Global Id: | T06019760128 |
| Action Type: | ENFORCEMENT |
| Date: | 09/19/2005 |
| Action: | Notice of Responsibility |

SAN DIEGO CO. SAM:

| | |
|---|---|
| Case Number: | 122765-001 |
| Agency: | DEH Site Assessment & Mitigation |
| **Funding:** | **LOP - State Fund** |
| Facility Type: | Soils Only |
| Facility Status: | Closed Case |
| Date: | 12/18/2007 |
| Date Began: | 8/9/2005 |

---

**A2**
**WSW**
**1/2-1**
**0.869 mi.**
**4590 ft.**

**BROWN FIELD BOMBING RANGE** **RESPONSE** **S109348527**
**2 MILES NORTHEAST OF OTEY MESA, SAN DIEGO** **ENVIROSTOR** **N/A**
**SAN DIEGO, CA 92154**

**Site 1 of 2 in cluster A**

**Relative:**
**Higher**

**Actual:**
**557 ft.**

RESPONSE:

| | |
|---|---|
| Facility ID: | 80000890 |
| Site Type: | State Response |
| Site Type Detail: | FUDS |
| Acres: | 46.44 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Omoruyi Patrick |
| Supervisor: | Douglas Bautista |
| Division Branch: | Cleanup Cypress |
| Site Code: | 401302 |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Assembly: | 80 |
| Senate: | 40 |
| Special Program Status: | Not reported |
| Status: | Inactive - Action Required |
| Status Date: | 11/08/2010 |
| Restricted Use: | NO |
| Funding: | DERA |
| Latitude: | 32.5875 |
| Longitude: | -116.9416 |
| APN: | NONE SPECIFIED |
| Past Use: | FIRING RANGE - ARTILLERY |
| Potential COC: | Explosives (UXO, MEC, Munitions Debris (MD |
| Confirmed COC: | Explosives (UXO, MEC, Munitions Debris (MD, NONE SPECIFIED |
| Potential Description: | SOIL |
| Alias Name: | BROWN FIELD AIRFIELD |

**BROWN FIELD BOMBING RANGE (Continued)** **S109348527**

Alias Type: Alternate Name
Alias Name: CA99799F600000
Alias Type: Federal Facility ID
Alias Name: J09CA1130
Alias Type: INPR
Alias Name: 401302
Alias Type: Project Code (Site Code)
Alias Name: 80000890
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/15/2006
Comments: DTSC reviewed and concurred with the final Technical Project Plan (TPP) document following the Programmatic Work Plan comment resolution.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment/Site Inspection Report (PA/SI)
Completed Date: 08/24/2007
Comments: DTSC approved the final SI Work Plan on 8/24/2007 following a conference-call addressing the Programmatic Work Plan comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Site Inspection (SI) Report
Completed Date: 01/22/2008
Comments: DTSC approved the final SI Report. A Remedial Investigation was recommended as future action for the site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:

Site Type: State Response
Site Type Detailed: FUDS
Acres: 46.44
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Omoruyi Patrick
Supervisor: Douglas Bautista
Division Branch: Cleanup Cypress
Facility ID: 80000890
Site Code: 401302
Assembly: 80
Senate: 40

**BROWN FIELD BOMBING RANGE (Continued)** **S109348527**

Special Program: Not reported
Status: Inactive - Action Required
Status Date: 11/08/2010
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: DERA
Latitude: 32.5875
Longitude: -116.9416
APN: NONE SPECIFIED
Past Use: FIRING RANGE - ARTILLERY
Potential COC: Explosives (UXO, MEC, Munitions Debris (MD
Confirmed COC: Explosives (UXO, MEC, Munitions Debris (MD, NONE SPECIFIED
Potential Description: SOIL
Alias Name: BROWN FIELD AIRFIELD
Alias Type: Alternate Name
Alias Name: CA99799F600000
Alias Type: Federal Facility ID
Alias Name: J09CA1130
Alias Type: INPR
Alias Name: 401302
Alias Type: Project Code (Site Code)
Alias Name: 80000890
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
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Completed Date: 08/24/2007
Comments: DTSC approved the final SI Work Plan on 8/24/2007 following a conference-call addressing the Programmatic Work Plan comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Site Inspection (SI) Report
Completed Date: 01/22/2008
Comments: DTSC approved the final SI Report. A Remedial Investigation was recommended as future action for the site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

**A3 WSW 1/2-1 0.873 mi. 4609 ft.** | **BROWN FIELD BOMBING RANGE** | **FUDS** | **1007212448** **N/A**

**CHULA VISTA, CA**

**Site 2 of 2 in cluster A**

**Relative: Higher**

**Actual: 557 ft.**

FUDS:

| | |
|---|---|
| Federal Facility ID: | CA9799F6000 |
| FUDS #: | J09CA1130 |
| INST ID: | 53787 |
| Facility Name: | BROWN FIELD BOMBING RANGE |
| City: | CHULA VISTA |
| State: | CA |
| EPA Region: | 09 |
| County: | SAN DIEGO |
| Congressional District: | 51 |
| US Army District: | Los Angeles District (SPL) |
| Fiscal Year: | 2011 |
| Telephone: | 213-452-3920 |
| NPL Status: | Not Listed |
| RAB: | Not reported |
| CTC: | 6152 |
| Current Owner: | OTHER |
| Current Prog: | Not reported |
| Future Prog: | Not reported |
| Description: | on 21 April 1944, the U.S. acquired 46.44 acres of land for a Navy range in San Diego County, approximately. 2 miles northeast of the Brown Field (or Otay Mesa) Air Field. On 21 July 1944, the U.S. also acquired an easement along the road leading to the site. In addition, the Navy acquired an unknown quantity of land adjoining the site for rock approach markers by revocable permit in November 1944. This site was used for a Navy range in San Diego County, approximately 2 miles northeast of Brown (or Otay Mesa) Air Field. By quitclaim deeds dated 23 June 1961, the 46.44 acres of easement were granted to Kuebler Ranch Inc. This property is known or suspected to contain military munitions and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard.<br>On 21 April 1944, the U.S.-acquired range and the easement had been declared surplus by mid-1961, and assigned to the General Services Administration for disposal. The Baldwin Company, the current owner, is proposing to build a business park complex on the property. |

Count: 5 records.

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| JAMUL | S106063815 | OTAY WD 9-1 PUMP STATION | HWY 94 | 91935 | San Diego Co. HMMD |
| JAMUL | S105155612 | JAMUL BURNSITE | JAMUL DRIVE | | SWF/LF |
| SAN DIEGO | 1015730674 | OTAY MESA CID DRUMS | CORNER HERITAGE ROAD AND OTAY | 92154 | CERCLIS |
| SAN DIEGO | S110498344 | SDG&E - HARVEST GATE STATION | 0 HARVEST | 92154 | San Diego Co. HMMD |
| SAN DIEGO COUNTY | M300003193 | NELSON & SLOAN CO. | OTAY PIT & MILL | | US MINES |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## STANDARD ENVIRONMENTAL RECORDS

### *Federal NPL site list*

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 10/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 10/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

***Federal Delisted NPL site list***

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

| | |
|---|---|
| Date of Government Version: 04/26/2013 | Source: EPA |
| Date Data Arrived at EDR: 05/09/2013 | Telephone: N/A |
| Date Made Active in Reports: 07/10/2013 | Last EDR Contact: 10/11/2013 |
| Number of Days to Update: 62 | Next Scheduled EDR Contact: 01/20/2014 |
| | Data Release Frequency: Quarterly |

***Federal CERCLIS list***

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

| | |
|---|---|
| Date of Government Version: 04/26/2013 | Source: EPA |
| Date Data Arrived at EDR: 05/29/2013 | Telephone: 703-412-9810 |
| Date Made Active in Reports: 08/09/2013 | Last EDR Contact: 10/18/2013 |
| Number of Days to Update: 72 | Next Scheduled EDR Contact: 12/09/2013 |
| | Data Release Frequency: Quarterly |

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

| | |
|---|---|
| Date of Government Version: 07/31/2012 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 10/09/2012 | Telephone: 703-603-8704 |
| Date Made Active in Reports: 12/20/2012 | Last EDR Contact: 10/11/2013 |
| Number of Days to Update: 72 | Next Scheduled EDR Contact: 01/20/2014 |
| | Data Release Frequency: Varies |

***Federal CERCLIS NFRAP site List***

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

| | |
|---|---|
| Date of Government Version: 04/26/2013 | Source: EPA |
| Date Data Arrived at EDR: 05/29/2013 | Telephone: 703-412-9810 |
| Date Made Active in Reports: 08/09/2013 | Last EDR Contact: 10/18/2013 |
| Number of Days to Update: 72 | Next Scheduled EDR Contact: 12/09/2013 |
| | Data Release Frequency: Quarterly |

***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

***Federal institutional controls / engineering controls registries***

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Varies

***Federal ERNS list***

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/17/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 29

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

***State- and tribal - equivalent NPL***

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

***State and tribal leaking storage tank lists***

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 94

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

***State and tribal registered storage tank lists***

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 45

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 92

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2014
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

***State and tribal voluntary cleanup sites***

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 10/02/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 14

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Brownfield lists***

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

***Local Lists of Landfill / Solid Waste Disposal Sites***

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 04/26/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 20

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

***Local Lists of Hazardous waste / Contaminated Sites***

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/06/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 22

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/04/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

***Local Lists of Registered Storage Tanks***

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Local Land Records***

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/14/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

***Records of Emergency Release Reports***

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/12/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/30/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 143

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/28/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 28

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/30/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Every 4 Years

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/09/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

UIC: UIC Listing

A listing of underground control injection wells.

Date of Government Version: 08/21/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 52

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 58

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/27/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/15/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/27/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/13/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 31

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/28/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/12/2013
Date Data Arrived at EDR: 08/20/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 49

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 19

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/25/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: N/A

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

**EDR HIGH RISK HISTORICAL RECORDS**

***EDR Exclusive Records***

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**COUNTY RECORDS**

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 14

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 25

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 61

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 39

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/09/2013
Date Data Arrived at EDR: 01/10/2013
Date Made Active in Reports: 02/25/2013
Number of Days to Update: 46

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/09/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/25/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 07/22/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 35

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013
Date Data Arrived at EDR: 02/21/2013
Date Made Active in Reports: 03/25/2013
Number of Days to Update: 32

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/31/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 26

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/20/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012
Date Data Arrived at EDR: 11/28/2012
Date Made Active in Reports: 01/21/2013
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/23/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 09/04/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 39

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/12/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 32

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2013
Date Data Arrived at EDR: 05/30/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 46

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/22/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 49

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/20/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 16

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 46

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/25/2013
Date Data Arrived at EDR: 09/27/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 21

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 08/26/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 49

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/13/2013
Next Scheduled EDR Contact: 09/30/2013
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/04/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/14/2013
Date Data Arrived at EDR: 08/16/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 53

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/09/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/20/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 47

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/14/2013
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 42

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 06/24/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 49

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/18/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 55

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

**OTHER DATABASE(S)**

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 09/10/2013
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

**STREET AND ADDRESS INFORMATION**

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# GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

**TARGET PROPERTY ADDRESS**

870-2 PUMP STATION
ROLL RESERVOIR
JAMUL, CA 91935

**TARGET PROPERTY COORDINATES**

| | |
|---|---|
| Latitude (North): | 32.5947 - 32˚ 35’ 40.92’’ |
| Longitude (West): | 116.9268 - 116˚ 55’ 36.48’’ |
| Universal Tranverse Mercator: | Zone 11 |
| UTM X (Meters): | 506869.3 |
| UTM Y (Meters): | 3606169.5 |
| Elevation: | 557 ft. above sea level |

**USGS TOPOGRAPHIC MAP**

| | |
|---|---|
| Target Property Map: | 32116-E8 OTAY MESA, CA MX02 |
| Most Recent Revision: | 1991 |

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

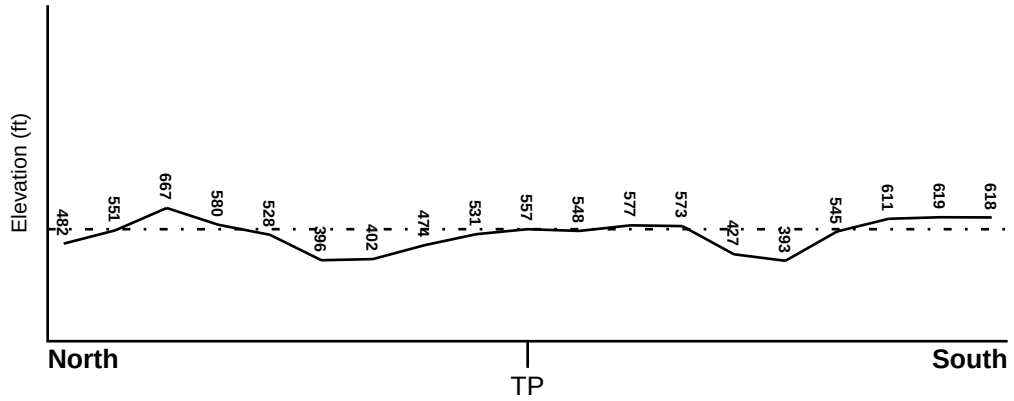
**TOPOGRAPHIC INFORMATION**

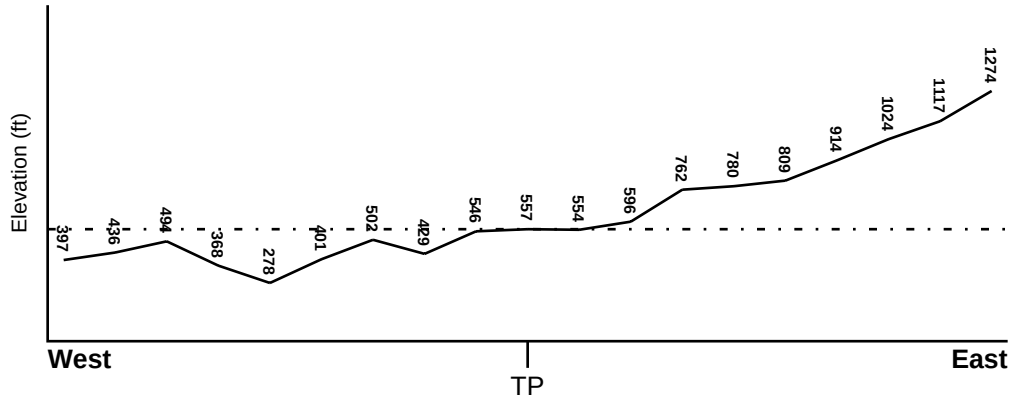
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

**TARGET PROPERTY TOPOGRAPHY**

General Topographic Gradient: General WNW

**SURROUNDING TOPOGRAPHY: ELEVATION PROFILES**




**Target Property Elevation: 557 ft.**

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**HYDROLOGIC INFORMATION**

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

**FEMA FLOOD ZONE**

| Target Property County | FEMA Flood Electronic Data |
|---|---|
| SAN DIEGO, CA | YES - refer to the Overview Map and Detail Map |

Flood Plain Panel at Target Property: 06073C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

**NATIONAL WETLAND INVENTORY**

| NWI Quad at Target Property | NWI Electronic Data Coverage |
|---|---|
| OTAY MESA | YES - refer to the Overview Map and Detail Map |

**HYDROGEOLOGIC INFORMATION**

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

***Site-Specific Hydrogeological Data*:***

Search Radius: 1.25 miles
Status: Not found

**AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

| MAP ID | LOCATION FROM TP | GENERAL DIRECTION GROUNDWATER FLOW |
|---|---|---|
| Not Reported | | |

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

**GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

**ROCK STRATIGRAPHIC UNIT**

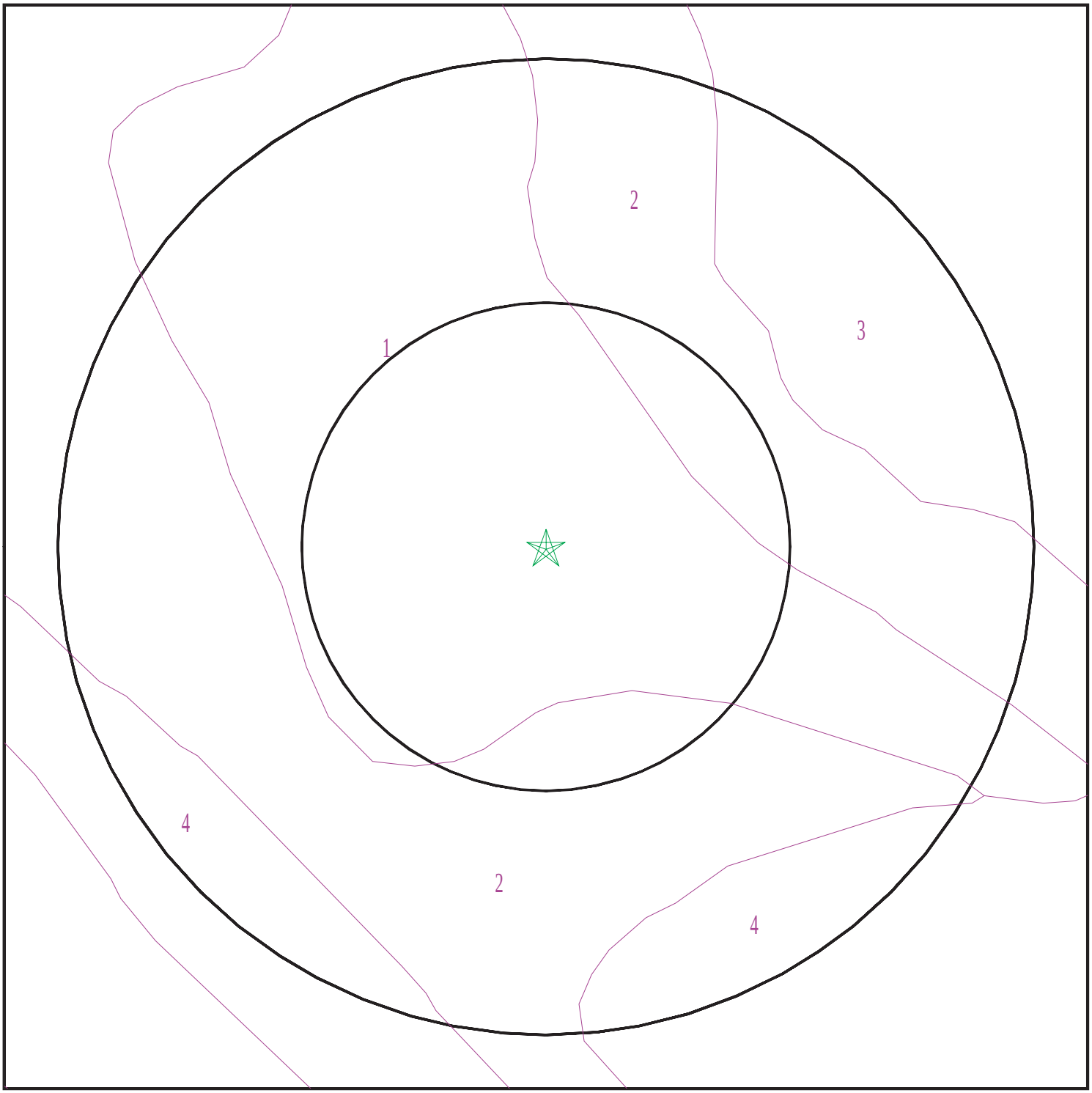
| | |
|---|---|
| Era: | Mesozoic |
| System: | Lower Jurassic and Upper Triassic |
| Series: | Lower Mesozoic |
| Code: | lMze *(decoded above as Era, System & Series)* |

**GEOLOGIC AGE IDENTIFICATION**

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 3775911.2s




Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

| | |
|---|---|
| SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul CA 91935<br>LAT/LONG: 32.5947 / 116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY #: 3775911.2s<br>DATE: November 04, 2013 6:24 pm |

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# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY**

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

---

**Soil Map ID: 1**

Soil Component Name: STOCKPEN

Soil Surface Texture: gravelly clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 3 inches | gravelly clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 1.4<br>Min: 0.42 | Max: 6.5<br>Min: 5.6 |
| 2 | 3 inches | 20 inches | gravelly clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 0.42<br>Min: 0.01 | Max: 7.8<br>Min: 6.1 |
| 3 | 20 inches | 59 inches | clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 0.42<br>Min: 0.01 | Max: 8.4<br>Min: 7.4 |

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Soil Map ID: 2**

Soil Component Name: HUERHUERO

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 9 inches | loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt. | Max: 14 Min: 4 | Max: 6 Min: 5.1 |
| 2 | 9 inches | 50 inches | clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 0.42 Min: 0.01 | Max: 8.4 Min: 7.4 |
| 3 | 50 inches | 59 inches | stratified sand to sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 7.4 |

**Soil Map ID: 3**

Soil Component Name: SAN MIGUEL

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 25 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 7 inches | silt loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt. | Max: 14 Min: 4 | Max: 6 Min: 5.1 |
| 2 | 7 inches | 18 inches | clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 0.42 Min: 0.01 | Max: 5.5 Min: 4.5 |
| 3 | 18 inches | 22 inches | gravelly clay loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay. | Max: 0.42 Min: 0.01 | Max: 5.5 Min: 4.5 |
| 4 | 22 inches | 27 inches | unweathered bedrock | Not reported | Not reported | Max: Min: | Max: Min: |

**Soil Map ID: 4**

Soil Component Name: HUERHUERO

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 11 inches | loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt. | Max: 14 Min: 4 | Max: 6 Min: 5.1 |
| 2 | 11 inches | 55 inches | clay | Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 0.42 Min: 0.01 | Max: 8.4 Min: 7.4 |
| 3 | 55 inches | 72 inches | stratified sand to sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 7.4 |

## LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

## WELL SEARCH DISTANCE INFORMATION

| DATABASE | SEARCH DISTANCE (miles) |
|---|---|
| Federal USGS | 1.000 |
| Federal FRDS PWS | Nearest PWS within 1 mile |
| State Database | 1.000 |

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**FEDERAL USGS WELL INFORMATION**

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| No Wells Found | | |

**FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION**

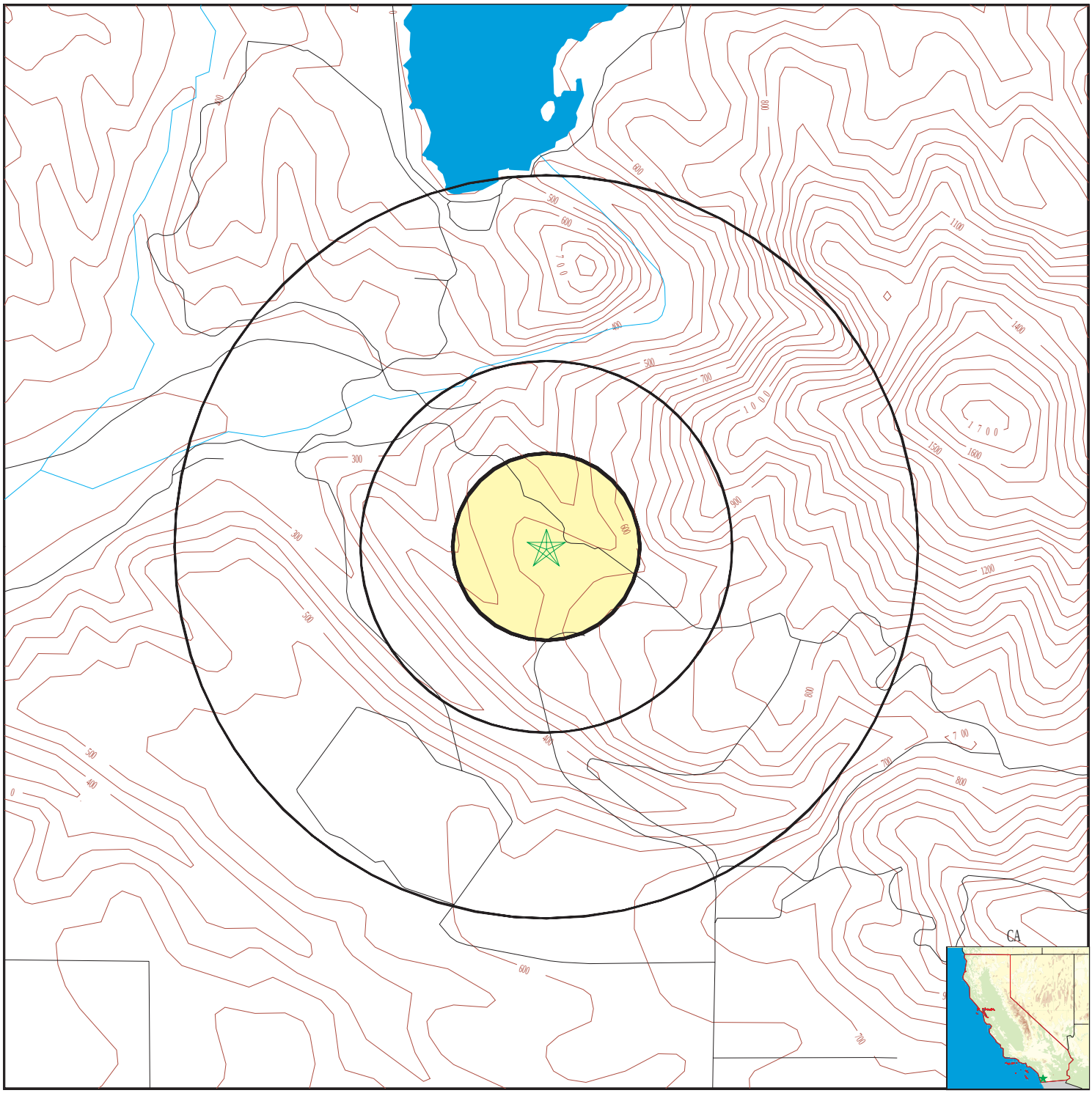
| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| No PWS System Found | | |

Note: PWS System location is not always the same as well location.

**STATE DATABASE WELL INFORMATION**

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| No Wells Found | | |

# PHYSICAL SETTING SOURCE MAP - 3775911.2s




County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

| | |
|---|---|
| SITE NAME: 870-2 Pump Station<br>ADDRESS: Roll Reservoir<br>Jamul CA 91935<br>LAT/LONG: 32.5947 / 116.9268 | CLIENT: Southern CA Soil and Testing<br>CONTACT: Doug Skinner<br>INQUIRY #: 3775911.2s<br>DATE: November 04, 2013 6:24 pm |

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# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
# RADON

**AREA RADON INFORMATION**

State Database: CA Radon

Radon Test Results

| Zipcode | Num Tests | > 4 pCi/L |
|---|---|---|
| 91935 | 6 | 0 |

Federal EPA Radon Zone for SAN DIEGO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

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Federal Area Radon Information for SAN DIEGO COUNTY, CA

Number of sites tested: 30

| Area | Average Activity | % <4 pCi/L | % 4-20 pCi/L | % >20 pCi/L |
|---|---|---|---|---|
| Living Area - 1st Floor | 0.677 pCi/L | 100% | 0% | 0% |
| Living Area - 2nd Floor | 0.400 pCi/L | 100% | 0% | 0% |
| Basement | Not Reported | Not Reported | Not Reported | Not Reported |

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

## HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

## HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

## OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

**STREET AND ADDRESS INFORMATION**

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**870-2 Pump Station**
Roll Reservoir
Jamul, CA 91935

Inquiry Number: 3775911.3
November 04, 2013

# Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

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# Certified Sanborn® Map Report

11/04/13

**Site Name:**
870-2 Pump Station
Roll Reservoir
Jamul, CA 91935

**Client Name:**
Southern CA Soil and Testing
6280 Riverdale Street
San Diego, CA 92120

EDR Inquiry # 3775911.3

Contact: Doug Skinner

EDR® Environmental Data Resources Inc

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## *Certified Sanborn Results:*

**Site Name:** 870-2 Pump Station
**Address:** Roll Reservoir
**City, State, Zip:** Jamul, CA 91935
**Cross Street:**
**P.O. #** 1311158
**Project:** 870-2 Pump Station Project
**Certification #** 48B4-4D0F-A5E6

Sanborn® Library search results
Certification # 48B4-4D0F-A5E6

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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APPENDIX D

# PHASE I CLIENT QUESTIONNAIRE

SOUTHERN CALIFORNIA
SOIL & TESTING, INC.
A California Certified Small Business Enterprise (SBE)

San Diego Office
6280 Riverdale Street
San Diego, CA 92120
P: 619.280.4321
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www.scst.com

Indio Office
83-740 Citrus Avenue, Suite G
Indio, CA 92201-3438
P: 760.775.5983
F: 760.775.8362

Riverside Office
1130 Palmyrita Avenue, Suite 339-A
Riverside, CA 92507
P: 951.965.8711
Toll Free:
877.215.4321

# PHASE I CLIENT QUESTIONNAIRE

*The Purpose of this questionnaire is to obtain information from the client regarding the Property.*

Date Sent to Client _____ Date Received from Client _____

## A. SITE INFORMATION

1. Property Name: _870-2 Pump Station – Roll Reservoir

2. Location (If a map is available, please include it): _NA. Previously provided by Client.

3. Why is this Phase I required? (Development as a residential parcel, protection from CERCLA liability, etc.?): __It will be used to analyze any potential impacts from hazards/hazardous materials for the CEQA document being developed for the construction of the pump station.

4. Is there an Interview Contact for this job? (A current owner, operator, or someone with knowledge of the history and/or processes occurring at the site). ☑ Yes ☐ No

   If yes, please provide the following information:
   Person to be interviewed: ____Lisa Coburn-Boyd
   Title/Company: _____Environmental Compliance Specialist
   Phone number and/or email address: 619-670-2219 / lisa.coburn-boyd@otaywater.gov

5. Do you have any reports for this job (such as previous Phase I's, biology reports, cultural resource reports, geotechnical reports, etc). ☑ Yes ☐ No

   If yes, please provide them from SCS&T to review. *Date received from Client* _____

6. As part of our investigation, SCS&T contacts local agencies to obtain miscellaneous information about the project site such as previous investigations, zoning, and flood zone. Do you have any current restrictions regarding SCS&T contacting these agencies?

   ☐ Yes ☑ No

   If yes, please contact us to discuss further.

## B. SITE ACCESS

1. Does SCS&T have access to the property at this time? ☐ Yes ☑No

2. Are there any access restrictions such as a locked gate or required insurance forms? _____

   _____Locked gate, District must be notified for access.

3. Is there a site manager that SCS&T needs to contact prior to visiting the site? Contact Lisa Coburn-Boyd (see above) for access.

## C. LANDOWNER LIABILTY PROTECTIONS

In order to qualify for one of the Landowner Liability Protections offered by the Small Business liability Relief and Brownfields Revitalization of 2001 (the "Brownfields Amendments"), the client must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

1. Are you aware of any environmental clean-up liens against the property that are filed or recorded under federal, tribal, state or local law? (40 CFR 312.25) ☐ Yes ☑ No

   If no, have you or will you conduct a search for any environmental cleanup liens against the property that are filed or recorded in a registry.

   If yes, please provide SCS&T with this information.

2. Are you aware of any activity and land use limitations (AULs), such as engineering controls that are in place on or for the site and/or have been filed or that environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law? (40 CFR 312.25) ☐ Yes ☑ No

   If no, have you or will you conduct a search for any AULs against the property that are filed or recorded in a registry.

   If yes, please provide SCS&T with this information.

3. As the user of this Environmental Site Assessment, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the potential chemicals and processes used by this type of business? ☑ Yes ☐ No

   If yes, please provide SCS&T with this information. This site was undeveloped when the reservoir was built.

4. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? Not applicable. ☐ Yes ☐ No

   If you conclude that there is a difference, have you considered whether the lower purchase price is because of any environmental concerns are known or believed to be present at the property?

   ☐ Yes ☐ No

# PHASE I CLIENT QUESTIONNAIRE

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of hazardous materials/chemical releases or threatened releases? For example,

   A. Do you know the past uses of the property? ☑ Yes ☐ No

   If yes, please provide SCS&T with this information. Undeveloped land.

   B. Do you know of specific chemicals that are present or once were present at the property? ☐ Yes ☑ No

   If yes, please provide SCS&T with this information.

   C. Do you know of spills or other chemical releases that have taken place at the property? ☐ Yes ☑ No

   If yes, please provide SCS&T with this information.

   D. Do you know of any environmental cleanups that have taken place at the property or adjacent properties? ☐ Yes ☑ No

   If yes, please provide SCS&T with this information.

6. As the user of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? ☐ Yes ☑ No

   If yes, please provide SCS&T with this information.

Preparer: Lisa Coburn-Boyd

Name/Company: Otay Water District

Address: 2554 Sweetwater Springs Blvd., Spring Valley, CA 91978

Signature: Lisa Coburn-Boyd

Date: 11/12/13

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**Phase I Environmental Site Assessment**
**Owner Questionnaire**

**870-2 Pump Station**
**Roll Reservoir**
**Jamul, CA**

Date: 11/13/13 By: Lisa Coburn-Boyd

Job No: 1311158 Task 3 Project Name: 870-2Pump Station

Site Address: _____

Interview With: Lisa Coburn-Boyd

Telephone No: 619-670-2219 Email: lisa.coburn-boyd@otaywater.gov

Knowledge of Previous Owner(s) and Phone Numbers: None

How are you associated with the property? Staff for the owner (OWD)

How long have you been associated with the subject property? 7 years

What is the subject property currently used for? Site for a potable water reservoir & pump station

Are there structures on the property? yes How Many? two

Do you know of any previous structures on the subject property? no

Do you have any current or past knowledge of the presence of underground or aboveground storage tanks being located on the subject property? no

Do you know of any chemical or hazardous materials, persistent pesticides/herbicides being used, stored or discharged on the subject property? 500 gal. oil storage tank on pump station site

Do you know any Institutional Controls (Env. Cleanup Liens) or Engineering Controls (slurry walls or vapor barriers) filed or recorded against the subject property? no

Do you know of any buried materials such as garbage dumps or burn pins on the subject property? no

Are there currently or were there historically any septic systems and/or water wells located on the subject property? no Any dry wells/monitoring wells? no

Are there any drainage or disposal ponds located on the subject property? no

Is the subject property connected to municipal water and sewer system? yes

Do you have any commonly known, reasonably ascertainable, or specialized knowledge or experience related to the subject property or nearby properties? no

Do you have any obvious indications pointing to the presence or likely presence of contamination of the subject property? no

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses or Underground Storage Tanks (USTs) or Above Storage Tanks (ASTs) on adjacent properties? no

**Name:** Lisa Coburn-Boyd Date: 11/13/13
(Please Print)

Signature: Lisa Coburn-Boyd