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CHET HARRITT PUMP STATION AND LAKE JENNINGS AERATION SYSTEM (CIP21008), AND CLEARWELL EFFLUENT FLOW METER (CIP22004)

Initial Study/ Mitigated Negative Declaration

B&V PROJECT NO. 410303
B&V FILE NO. 33.4000

PREPARED FOR

Helix WATER DISTRICT

30 MARCH 2023

BLACK & VEATCH

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LIST OF ABBREVIATIONS

The following abbreviations and acronyms are used in this report:

AB	Assembly Bill
AFY	Acre-Feet per Year
AHERA	Asbestos Hazard Emergency Response Act
APE	Area of Potential Effect
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal Green	California Green Building Standards Code
CalNAGPRA	California Native American Graves Protection and Repatriation Act
Cal/OSHA	California Division of Occupational Safety and Health
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	Methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Service
CPUC	California Public Utilities Commission
CO	Carbon Monoxide
CO_2	Carbon Dioxide Equivalent
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency

CWA	Clean Water Act
dB	Decibel
dBA	A weighted decibels
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EDUs	Equivalent Dwelling Units
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FHSZ	Fire Hazard Severity Zone
GC	Government Code
GHGs	Greenhouse Gases
GIS	Geographic Information System
HWMP	Hazardous Waste Management Program
Lbs/day	pounds per day
IPaC	United States Fish and Wildlife Service's Information for Planning and Consultation
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
LOS	Level of Service
M-2	Intensive Industrial Zone District
MGD	million gallons per day
MMRP	Mitigation Monitoring & Reporting Program
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMT	Million Metric Tons
MMTCO2e	Million Metric Tons of Carbon Dioxide Equivalent
MND	Mitigated Negative Declaration
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
ND	Negative Declaration

NFPA	National Fire Protection Association
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NVLAP	National Voluntary Laboratory Accreditation Program
O_3	Ozone
OHWM	Ordinary High-Water Mark
Pb	Lead
PM_{10}	Particulate Matter less than 10 microns in diameter
$PM_{2.5}$	Particulate Matter less than 2.5 microns in diameter
PRC	Public Resources Code
Project	Chet Harritt Pump Station Replacement, Lake Jennings Aeration System Installation and Clearwell Effluent Flow Meter Installation Projects.
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCIC	South Coastal Informational Center
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SWRCB	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
tons/year	tons per year
USACE	United States Army Corps of Engineers
USC	Untied States Code
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tanks
VHFHSZ	Very High Fire Hazard Severity Zones

VMT	Vehicle Miles Traveled
WDR	Waste Discharge Requirements
WTP	Water Treatment Plant

1.0 Introduction

Black & Veatch has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the Helix Water District (HWD) to address the environmental effects of the proposed following three projects: Chet Harritt Pump Station Replacement; Lake Jennings Aeration System Installation; and Clearwell Effluent Flow Meter Installation, hereinafter collectively referred to herein as "Project") . This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq.. HWD is the CEQA lead agency for this Project.

The site and Project are described in detail in Chapter 2 – Project Description.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq*.)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is *no* substantial evidence in light of the whole record that the project may have a significant effect on the environment. A ND is a written statement describing the reasons why a proposed project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

1. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment; or
2. The IS identified potentially significant effects, but:
   a) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared; and
   b) There is no substantial evidence, in light of the whole record before the agency, that the proposed project, as revised, may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains four chapters and five appendices. Chapter 1 (Introduction) provides an overview of the proposed Project and the CEQA process. Chapter 2 (Project Description) provides a detailed description of proposed Project components and objectives. Chapter 3 (Impact Analysis) presents: 1) the CEQA checklist and environmental analysis for all impact areas; 2) mandatory findings of significance; and 3) feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts along with appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 3 concludes with the Lead Agency's determination, based upon this initial evaluation. Chapter 4 (Mitigation Monitoring and Reporting Program [MMRP]), provides the proposed mitigation measures, implementation timelines, and names of the entity/agency responsible for ensuring implementation.

The following technical reports are located at the end of this document in the Appendices section: A): California Emissions Estimator Model (CalEEMod) Output Files; B) Biological Evaluation; C)Cultural Resources Inventory and Historical Property Evaluation Report; D)Geotechnical Report and United States Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Resource Report; and E) Asbestos and Lead-Based Paint Survey are provided as technical Appendix A, Appendix B, Appendix C, Appendix D, and Appendix E respectively, at the end of this document**.**

2.0 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Chet Harritt Pump Station Replacement Project, Lake Jennings Aeration System Project, and Clearwell Effluent Flow Meter Project are collectively referred to herein as the Project.

2.1.2 Lead Agency Name and Address

Helix Water District, 7811 University Avenue, La Mesa, CA 91942

2.1.3 Contact Person and Phone Number

Lead Agency Contact

CEQA Consultant
Black & Veatch

Phone No.: (760) 621-8421

2.1.4 Project Location

The Project is located in eastern San Diego County, within unincorporated Lakeside on the west side of Lake Jennings. Lake Jennings is approximately 18 miles northeast of Downtown San Diego (See Figure 2-1). The Project Site located approximately 1 mile north of Interstate 8 and more specifically, just north of the existing RM Levy Water Treatment Plant (WTP) off Lake Jennings Park Road, with Assessor's Parcel Numbers: 395-130-38, 395-152-10 and 395-140-01, and contains approximately 66-acres of Area of Potential Effect (APE) ("Project Site").

2.1.5 Latitude and Longitude

Chet Harritt Pump Station coordinates: 32.856223, -116.895072

Future Lake Jennings Aeration System coordinates: 32.856803, -116.892665

Clearwell Effluent Flow Meter coordinates: 32.854900, -116.894688

2.1.6 General Plan Designation

The 2011 San Diego County General Plan lists the parcels as follows:

Parcels 395-130-38 and 395-152-10- "Public/Semi-Public Facilities;" and

Parcel 395-140-01 - "Public Agency Lands."

2.1.7 Zoning

Parcel- 39513038 is zoned as "RR" Residential.

Parcel 39515210 is zoned as "A70" Agricultural.

Parcel 39514001 is zoned as "S80" Special Purpose.

2.1.8 Description of Project

2.1.8.1 Project Background and Purpose

The Chet Harritt Pump Station (CHPS) is located in Lakeside, unincorporated County of San Diego, California, as shown in Figure 2-1. This figure also identifies major Helix Water District (HWD) existing facilities along with the proposed LJAS within Lake Jennings. The existing pump station was built in 1970 and is an open-air, three pump unit station that transfers raw water from Lake Jennings to the R.M. Levy Water Treatment Plant (WTP) at a flow rate of 4 to 42 million gallons per day (MGD). The pump station currently operates in a two duty plus one standby configuration with one 150-horsepower and two 200-horsepower pumps. The District is currently facing the following challenges with the existing pump station:

- Only one pump is on a Variable Frequency Drive (VFD), resulting in limited operational flexibility;
- Inefficient operation; and
- The assets are reaching the end of their useful life.

The CHPS Replacement Project is designed to address these challenges by replacing the existing pump station with a new, reliable, safe, efficient, easy to operate and maintain facility that will be optimized for meeting the projected flow rate demands of the East County Advanced Water Purification Program (East County AWP).

The CHPS Replacement Project will also include the installation of a new air curtain within Lake Jennings to prevent short-circuiting and improve dilution of the intake water received from the advanced water purification facility. The new CHPS building will be fitted with air compressors for discharging air through pipeline into the lake. An existing air compressor used to provide aeration at the Outlet Tower will also be replaced and co-located in the new compressor facility at the CHPS building. Additional improvements include the installation of a new flowmeter vault to provide accurate monitoring of water exiting the Clearwell Tank at R.M. Levy WTP, and replacement of the outdated Lake Jennings Dam seepage weir and sump.

The Lake Jennings Aeration System (LJAS) will be located at Lake Jennings in Lakeside, unincorporated County of San Diego, California as shown in Figure 2-2. The figure also identifies existing key District facilities, along with the proposed Chet Harritt Pump Station for reference. The LJAS consists of multiple features including:

- A new compressor room and compressor systems;
- Air supply pipelines routed from the compressors to the air curtains;
- New air curtains installed in Lake Jennings to prevent short-circuiting and improve dilution of the product water from the East County AWP; and
- Updating the existing tower aeration compressor and diffuser piping that prevents stratified conditions in the lake near the lake outlet tower.

An existing air compressor currently used to provide aeration at the Outlet Tower will be replaced and co-located with the air curtain compressors in the new compressor room located at the CHPS building.

2.1.8.2 Existing Facilities

The Project Site consists of the following existing facilities:

- Chet Harritt Pump Station- Open-air, three pump unit station;
- LJAS- Existing Air Compressor and Outlet Tower Aeration System;
- Clearwell Tank;
- RM Levy WTP;
- Lake Jennings; and
- Chet Harritt Dam

2.1.8.3 Project Components

The Project consists of the following improvements as described below.

Chet Harritt Pump Station

The Chet Harritt Pump Station (CHPS) is located in Lakeside, unincorporated County of San Diego, California, as shown in Figure 2-2. This figure also identifies major Helix Water District (HWD) existing facilities along with the proposed LJAS within Lake Jennings. The existing pump station was built in 1970 and is an open-air, three pump unit station that transfers raw water from Lake Jennings to the R.M. Levy Water Treatment Plant (WTP) at a flow rate of 4 to 42 million gallons per day (MGD). The pump station currently operates in a two duty plus one standby configuration with one 150 horsepower and two 200 horsepower pumps. The District is currently facing the following challenges with the existing pump station:

- Only one pump is on a VFD, resulting in limited operational flexibility;
- Inefficient operation; and
- The assets are reaching the end of their useful life.

The new CHPS will include a new three small-pump and two large-pump (5 total pumps) configuration. The three small pumps (125 horsepower each) provide nearly complete coverage of the normal range of operations from a lake elevation of 676 feet to 695 feet. Small gaps in coverage exist in low lake level scenarios approximately between 17 to 21 MGD and between 33 to 36 MGD. The two large pumps (350 horsepower each) provide complete coverage of the District prescribed emergency condition of 18 MGD at a lake level of 630 feet, with the first pump meeting the operating point and the second pump providing redundancy and the option to increase the flow rate. When combined, the small pumps and large pumps will allow complete coverage of the normal range of operations from a lake elevation of 676 feet to 695 feet while still meeting emergency conditions of 18 MGD at a lake elevation of 630 feet.

Because the large pumps are able to reach the small pump rated point of 15 MGD at 36 feet of head with VFDs, they will act as standby to the small pumps, thereby reducing the number of pumps required in the station. Additionally, the large pumps are sized to operate well within average head and flow conditions to allow them to be cycled periodically during normal operations. This cycling will increase their lifespan and reduce maintenance required, such that they are always available during emergency conditions.

Lake Jennings Aeration System

Mechanical parts of the Lake Jennings Aeration System will be collocated with Chet Harritt pump station while piping delivering air will be located at the Lake Jennings in Lakeside, unincorporated County of San Diego, California as shown in Figure 2-2. The figure also identifies existing District facilities along with the proposed Chet Harritt Pump Station for reference. The following is a list of anticipated LJAS components:

- Compressor Room in the new CHPS Building containing 8 Compressors and associated appurtenances (oil mist eliminators, filters, valves, water filters, cooling water supply, etc.);
- 5 non-submerged air supply pipelines (includes 1 spare line for redundancy);
- 4 sub-aqueous air supply pipelines (no spare sub-aqueous air supply lines);
- 3 new air curtain diffuser systems installed in Lake Jennings to prevent short-circuiting and achieve 100:1 target dilution of the East County AWP product water. (With reference to Figure 2-2, the air curtains are referred to as the Loop Line, Straight Line 1, and Straight Line 2);
- Transition Area between non-submerged and sub-aqueous piping with above-grade enclosure and isolation valves, transition fittings, and spare air line connections(Air supply piping will enter the Transition Area and above-grade enclosure from Bass Drive, exit into Lake Jennings, and proceed to the respective diffuser)s;

The LJAS consists of the facilities and equipment required to provide sufficient mixing of East County AWP water in order to achieve full compliance with the State Water Resources Control Board's (SWRCB) Indirect Potable Reuse (IPR) dilution regulations.

In order to achieve 100:1 dilution of East County AWP water, three (3) new air curtains (consisting of air supply piping, buoyancy piping, anchorage, and diffusers) will be installed in Lake Jennings. The alignments, elevations, and air flows associated with the three (3) new air curtains are based on extensive modeling performed by the East County AWP Joint Powers Authority (JPA) team, a collaborative partnership between Padre Dam Municipal Water District, the County of San Diego, the City of El Cajon, and Helix Water District. Duty and Standby compressors for the Lake Jennings air curtains will be sized to deliver the air flows that have demonstrated the ability to achieve greater than 100:1 dilution of East County AWP water in models performed by the East County AWP JPA. Compressor appurtenances and valving will facilitate the operation of the air curtains and maximize the system life.

To prevent lake stratification, new Tower Aerator compressors, compressor appurtenances, valving, air supply piping, buoyancy piping, anchorage, and diffuser will be installed. The existing Tower Aerator facilities located at the dam will be abandoned in place and removed in the future (not included in this contract).

A Compressor Room will be constructed in the new CHPS building to house the Air Curtain and Tower Aerator compressors and appurtenances. The Compressor Room will be maintained at a temperature below 90 degrees Fahrenheit (F) using fans for circulating outside air. HVAC equipment will be sized to meet the air demands when all four Duty Compressors are operating. The Compressor Room will be designed to facilitate maintenance, repairs, and removal of compressors.

An air supply pipeline Transition Area and anchor headwall system will be constructed on the north side of the dam and spillway. In this location, stainless steel (SST) air supply piping will transition to high density polyethylene (HDPE) prior to entering Lake Jennings. The Transition Area will include a fabricated, secured, above-grade enclosure that houses pipe material transition fittings, isolation valves, and spare air supply pipeline connections.

2.1.8.4 Operation and Maintenance

Operation and maintenance of the existing and new facilities will continue to be performed by Helix Water District Operation staff.

2.1.8.5 Construction

Construction of the Project is anticipated to be completed within approximately 18 months. Construction equipment will likely include excavators, backhoes, graders, loaders, skid steers, and dump trucks. Generally, construction will occur between the hours of 8 am and 5 pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

Although construction is not expected to generate hazardous waste, field equipment used during construction has the potential to contain various hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products.

2.1.9 Surrounding Land Uses and Setting:

The Project's setting is at the existing Chet Harritt Pump Station, R.M Levy WTP and Lake Jennings, surrounded by vacant lots and industrial uses in the central eastern portion of San Diego County, and more specifically, within the Lakeside Census Designated Area. The Chet Harritt Pump Station site is located on a parcel zoned RR Residential, R.M. Levy WTP is zoned A708 Agricultural, and the Chet Harritt Dam and Lake Jennings parcels are zoned as S80 Special Purpose. Corresponding General Plan land use designations for the site are "Public/Semi-Public Facilities" and "Public Agency Lands". Development to the south and west of the Project consists of undeveloped land and residential areas that are served by existing utilities and County services. North and east of Lake Jennings is open park land and undeveloped land, followed by rural residential properties. The Project Site is located along Lake Jennings Park Road, approximately 0.60-mile North of Interstate 8.

2.1.10 Other Public Agencies Whose Approval May Be Required:

Agency Approvals

Agency	Permit/Approval
Federal and State Agencies	
United States Army Corp of Engineers (USACE)	Clean Water Act Section 404 Permit
United States Fish and Wildlife Service	Endangered Species Act Compliance and Consultation
State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB)	National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit SWRCB Order No. 2009-0009 DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ)
	Waste Discharge Requirements (Water Code 13000 et seq.) and/or National Pollutant Discharge Elimination System (NPDES) Permit
	NPDES Industrial Permit SWRCB Order No. 2014-0057-DWQ
	NPDES Groundwater Permit RWQCB Order No. R9-2015-0013
	401 Certification (CWA, 33 USC 1341)
SWRCB Division of Drinking Water	Domestic water supply permit for surface water augmentation using recycled water (SBDDW-16-02)
California Department of Fish and Wildlife (CDFW)	California Endangered Species Act (California Public Resources Code Section 30600)
	California Fish and Game Code Section 1602 Notification of Lake or Streambed Alteration
California State Historic Preservation Office	Review under Section 106 Consultation, National Historic Preservation Act and California Office of Historic Preservation (California Public Resources Code Sections 5024, 5024.5, 21083.2 – 21084.1)
Local Agencies	
County of San Diego	Encroachment Permit
	Traffic Control Permit

2.1.11 Consultation with California Native American Tribes

Assembly Bill 52 (AB 52; codified by Public Resources Code Section 21080.3.1, et seq.) requires a lead agency, within 14 days of determining it will undertake a project, to notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification within that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate a request for formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or until one or both parties determine that negotiation occurred in good faith, but no agreement can be reached.

Helix Water District, as a lead agency, has received written correspondence from California Native American Tribes traditionally and culturally affiliated with the geographic area of the Project expressing an interest in having a tribal monitor present during project related ground-disturbing actives. In compliance with Public Resources Code (PRC) Section 21080.3.1, Helix Water District will develop a tribal monitoring program for the Project to accommodate this request.

In compliance with both AB 52 and Section 106 of the National Historic Preservation Act (NHPA), Ms. Ashley Longrie of the Environmental Protection Agency (EPA) contacted the Native American Heritage Commission (NAHC) in early April of 2022 for a Sacred Land File (SLF) search. A response from the NAHC was received by Ms. Longrie on April 25th, 2022, with positive results for the Project area. The NAHC provided a list of thirteen tribal organizations that should be contacted and stated that the Barona Group of the Capitan Grande (Barona) and the Viejas Band of Kumeyaay Indians (Viejas) in particular should be contacted from the list and that the Kumeyaay Cultural Repatriation Committee (KCRC) not on the list should also be contacted for more information. Letters to all tribal groups were sent via certified mail in early May of 2022 with follow up email correspondence shortly thereafter. On May 11th, 2022, the Viejas responded via email to Ms. Longrie, indicating that they reviewed the proposed Project and determined that the Project Site has cultural significance or ties to the Viejas. They requested that a Kumeyaay Cultural Monitor be on site for ground disturbing activities to inform them of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. On May 20th, 2022, Ms. Ashley Longrie called the KCRC to request an appropriate email address to send Project information to. Ms. Longrie spoke with Mr. Clint Linton of the KCRC, who requested additional information on the Project during that phone call. Later that same day Ms. Longrie emailed a portion of the requested Project information to Mr. Linton and indicated that she would send the remaining information once it became available. On June 14th, 2022, Ms. Longie sent a follow up email to Mr. Linton with the balance of information he had previously requested for the Project. Following that email on June 14th, no further inquiries and or comments have been received from Mr. Linton, nor any other tribal representatives. Further discussion and details of the outreach efforts can be found in Appendix C.

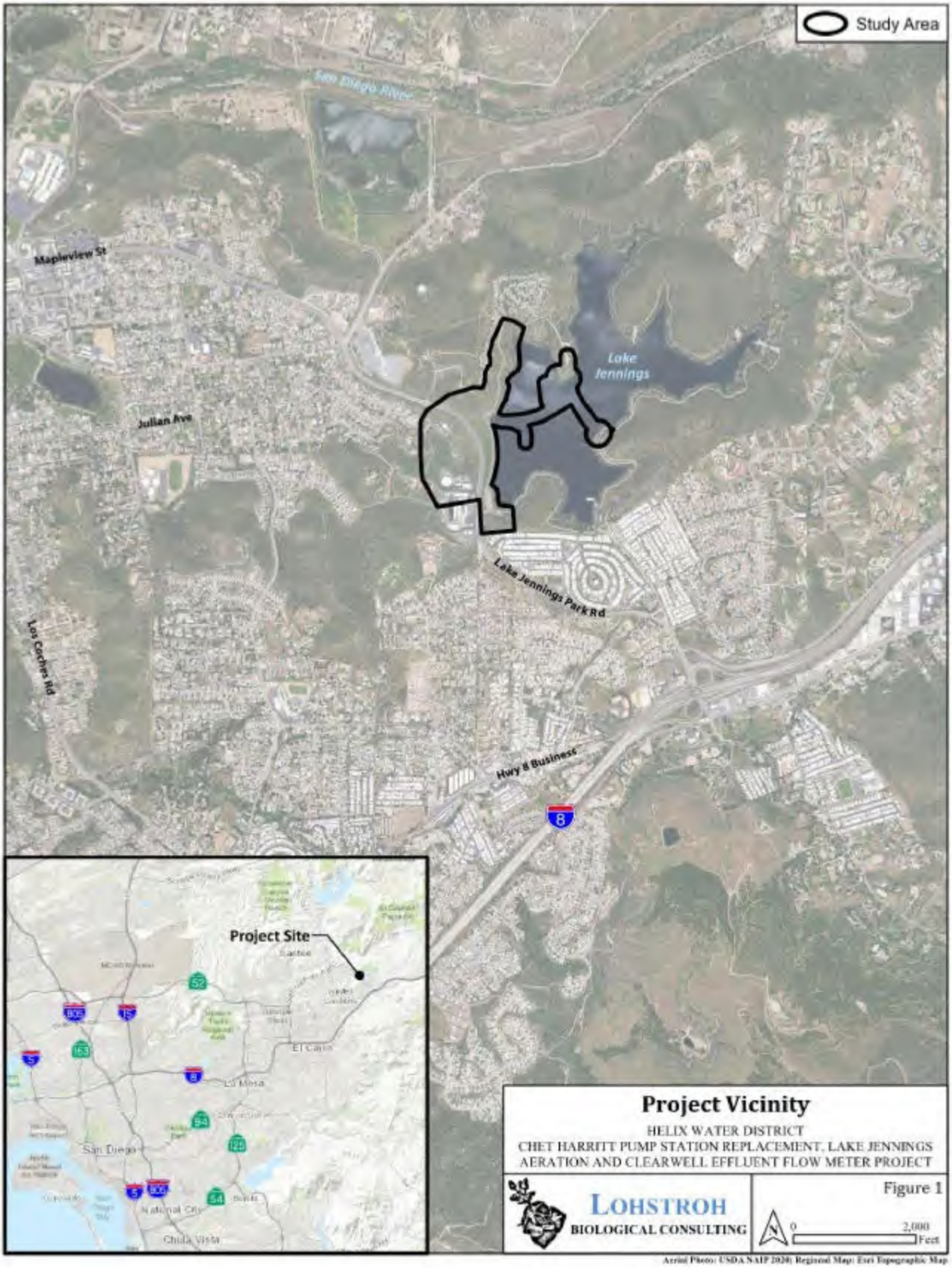

Figure 2-1. Regional Location Map

Figure 2-2. Project Location and District Facilities

3.0 Impact Analysis

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

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

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

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

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

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

Signature — 5-3-2023 Date

Debra Lundy — Helix Water District

Printed name — For

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
Except as Provided in Public Resources Code Section 21099, Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.2.1 Environmental Setting

The Project is located within San Diego County, and more specifically, within the "Lakeside" Census Designated Place. The Project area is loosely bounded by undeveloped land or Lake Jennings Park property. Further to the west and southwest residential areas surround the undeveloped land.

The Project property is located in the hilly/mountainous terrain of central and eastern San Diego County. Lake Jennings is located on the eastern portion of the suburban sprawl of the City of San Diego and its suburbs.

3.2.2 Regulatory Setting

3.2.2.1 Federal

There are no federal laws or regulations regarding aesthetics applicable to the Project.

3.2.2.2 State

Given the absence of officially designated State Scenic Highways in the vicinity, there are no State laws or regulations regarding aesthetics applicable to the Project.

3.2.2.3 Local

The 2011 San Diego County General Plan: The 2011 San Diego County General Plan sets for the following goals and policies that protect the aesthetic character of the County and which have potential relevance to the Project's CEQA review:

Goal COS-11: Preservation of Scenic Resources. Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized.

Policy COS-11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Policy COS-11.4: Collaboration with Agencies and Jurisdictions. Coordinate with adjacent federal and State agencies, local jurisdictions, and tribal governments to protect scenic resources and corridors that extend beyond the County's land use authority, but are important to the welfare of County residents.

Policy COS-11.5: Collaboration with Private and Public Agencies. Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas, whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.

3.2.3 Impact Assessment

a) **Would the project have a substantial adverse effect on a scenic vista?**
Less than Significant Impact. The Project Site is not within the viewshed of any official scenic features and is located below the Chet Harritt Dam. The Project involves improvements to an existing pump station, WTP, and lake and the proposed improvements would not stand out from its surroundings in any remarkable fashion and would not alter the current aesthetic character of the site. Impacts would be less than significant.

b) **Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**
Less than Significant Impact. The nearest officially designated State Scenic Highway in San Diego County is a 1.8-mile stretch of CA-125, which is located approximately 8.3 mile southwest of the site. A stretch of Interstate 8 which runs south of the site, and at its closest point is 1 mile from the site, is eligible for designation. Furthermore, as stated above in 3.2.3(a) Impact Assessment, the Project does not propose activities that would worsen scenic resources. Given the absence of an officially designated State Scenic Highway and the nature of the Project, impacts would be less than significant.

c) **In non-urbanized areas, would the project substantially degrade the existing visual character or quality of the site and its surroundings? (Public view are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**
Less than Significant Impact. The Project Site is surrounded primarily by suburban residential to the south, open space to the north and east, and public utility facilities to the south. As discussed above in 3.2.3(a) Impact Assessment, improvements to existing infrastructure would

not substantially degrade the visual character of the area. Impacts would be less than significant.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The Project Site is surrounded primarily by suburban residential to south, open space to north and east and public utility facilities to the south. Implementation of the Project would include upgrades to the existing pump station and installing underground utilities; however, operation of the improved facility will not result in an increased number of maintenance trips or staff members. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Resources Impacts

Agriculture and Forest Resources				
Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.3.1 Environmental Setting

The Project is located within San Diego County, and more specifically, within the "Lakeside" Census Designated Place. The Project Site is loosely bounded by undeveloped land or Lake Jennings Park property. Further to the west and southwest residential areas surround the undeveloped land. The Project has the following land use designations according to the 2011 San Diego County General Plan Map, Public/Semi-Public Facilities and Public Agency Lands.

3.3.2 Regulatory Setting

3.3.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with agriculture and forestry resources that are applicable to the Project.

3.3.2.2 State

Given the absence of farmland onsite or in the vicinity, there are no State laws or regulations regarding agriculture that apply to the Project.

3.3.2.3 Local

The site is acknowledged as a public facility and has no farmland in or near its vicinity.

3.3.3 Impact Assessment

a) **Would the project 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?**
No Impact. Implementation of the Project would not result in a conversion of farmland to non-agricultural use. There would be no impact.

b) **Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**
No Impact. The site is located within an existing public facility and is not zoned for agricultural use, nor is it covered under a Williamson Act contract. The Project involves improvements to an existing pump station and reservoir and would not result in any type of land use conversion, nor would it conflict with Williamson Act contracts. There would be no impact.

c) **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**
No Impacts. Implementation of the Project would not conflict with existing zoning or cause rezoning of forest land, timberland, timberland zoned for Timberland Production. There would be no impact.

d) **Would the project result in the loss of forest land or conversion of forest land to non-forest use?**
No Impacts. There are no forest lands or timberlands within the Project Site or vicinity. Furthermore, as stated above in Impact Assessments a and b, the Project does not propose any type of land use conversion. There would be no impacts.

e) **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**
No Impact. As discussed above in Impact Assessments a-d, the Project involves improvements to an existing public facility and would not result in any type of land use conversion, either directly or indirectly. There would be no impact.

3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

3.4.1 Environmental Setting

The Project lies within San Diego County and is within the jurisdiction of the San Diego County Air Quality Management District (SDAQMD). San Diego County has a varied topography. The western side has over 70 miles of coastline, while the east side of the county contains the Laguna Mountains. The Project itself is located in the foothills of the Laguna Mountains in an area known as East County. East County contains many mesa tops and valleys, which is the location of the subject Project.

Air quality in the San Diego County is influenced by a variety of factors, including topography as well as local and regional meteorology. The mountains on the east side of the county have the effect of blocking the dispersion of pollutants to the east, while the strong marine layer near the coast helps to create inversions, which also help to trap pollutants in the area. The combination of these factors leads to air quality issues and poor dispersion. In the summer months, inversions typically set up at 1,000 and 2,500 feet near the coast due to the influence of the cool marine layer, sunshine east of this marine layer only helps smog formation due to chemical reactions. During the winter months inversions tend to form at an 800-foot elevation, trapping pollutants near the ground. EPA and California attainment status is listed in Table 3-5. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the federal Clean Air Act as either “attainment”,

"nonattainment", or "extreme nonattainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment status relative to the State standards is determined by the California Air Resources Board (CARB).

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEmod, Soft Release for the Project in September 2022. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.4.1.1 Short-Term Construction-Generated Emissions

Construction impacts predominantly result from two sources: fugitive dust from surface disturbance activities; and exhaust emissions resulting from the use of construction equipment (including, but not-limited to: graders, dozers, back hoes, haul trucks, stationary electricity generators, and construction worker vehicles).For this Project, one of the pollutants of concern during construction is particulate matter, since PM_{10} is emitted as windblown (fugitive) dust during surface disturbance, and as exhaust of diesel-fired construction equipment (particularly as $PM_{2.5}$). CARB's Scientific Review Panel added diesel exhaust particulates to the California list of TACs as a carcinogenic material in 1998, under the so-called Tanner Act. The potential for an incremental cancer risk resulting from diesel-fired construction equipment exists. Other emissions of concern include architectural coating products off-gassing (VOCs), and other sources of mobile source (on-road and off-road) combustion (NOx, SOx, CO, PM_{10}, $PM_{2.5}$, and VOCs) associated with the project. Modeling assumptions and output files are included in **Appendix A**.

3.4.1.2 Long-Term Operational Emissions

Operational emissions are those which occur after project construction activities have been completed, and the project becomes operational. These emissions are a result of increased average daily vehicle trips by the occupants of a facility, as well as any proposed stationary sources associated with the subject facility or development. Depending on the characteristics of the individual project, operational activities have the potential to generate emissions of criteria pollutants. Operational impacts from land development activities are predominantly the result of vehicular traffic associated with projects. Although industrial developments may have additional pollutants of concern, combustion emissions (NO_X, SO_X, CO, PM_{10}, $PM_{2.5}$, and VOCs) associated with mobile sources are generally the primary concern in development applications. This includes diesel particulate emissions from that portion of the mobile fleet that runs on diesel fuel (including buses). For those areas which have severe degradation in traffic flow (i.e., levels of service "E" or below and over 3,000 peak-hour trips), the possibility of microscale carbon monoxide "hot spots" exists. Other sources of emissions, including emissions of particulates and other combustion products from wood-burning fireplaces, exist in residential subdivisions, but generally to an insubstantial degree.

3.4.1.3 Thresholds of Significance

Land-use development projects primarily result in emissions from construction activities and the traffic associated with daily operation (occupancy) of a proposed project. In order to establish acceptable criteria for determining significance, each question listed under the State CEQA Guidelines Appendix G must be addressed individually. The quantitative screening-level thresholds (SLTs) and guidelines for determining significance are discussed below. The thresholds of significance are summarized in Table 3-4 below:

Table 3-4. SDAQMD Thresholds of Significance for Criteria Air Pollutants

Pollutant	Construction-Related	Operational-Related
ROG (VOC's)	75 lbs/day, not to exceed 13.7 tons/year	75 lbs/day, not to exceed 13.7 tons/year
NO_X	25 lb/hr, 250 lbs/day, not to exceed 40 tons per year	25 lb/hr, 250 lbs/day, not to exceed 40 tons per year
PM ≤ 10 microns (PM10)	100 lbs/day, not to exceed 15 tons per year	100 lbs/day, not to exceed 15 tons per year
PM ≤ 2.5 microns ($PM_{2.5}$)	55 lbs/day, not to exceed 10 tons per year	55 lbs/day, not to exceed 10 tons per year
CO	100 lb/hr, 550 lbs/day, not to exceed 100 tons per year	100 lb/hr, 550 lbs/day, not to exceed 100 tons per year
SO_2	25 lb/hr, 250 lbs/day, not to exceed 40 tons per year	25 lb/hr ,250 lbs/day, not to exceed 40 tons per year
Lead	3.2 lbs/day, not to exceed 0.6 tons per year	3.2 lbs/day, not to exceed 0.6 tons per year

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Emissions of Ozone Precursors (NO_X): Construction impacts associated with the Project would be considered significant if the project generates emissions of NO_X that exceeds 25 lb/hr, 250 lbs/day or 40 tons/year.

Emissions of Ozone Precursors (ROG): Construction impacts associated with the Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) that exceeds 75 lbs/day or 13.7 tons/year.

Emissions of Particulate Matter (PM10 and PM2.5): Operational impacts associated with the Project would be considered significant if the Project generates operational emissions of PM_{10} and/or $PM_{2.5}$ exceeding 100 and 55 lbs/day or 15 and 10 tons/year, respectively.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's serious nonattainment status for ozone and state nonattainment status for PM, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_X) or PM_{10} or $PM_{2.5}$ exceeding the SDAQMD's significance thresholds, then the project would be considered to conflict with the attainment plans.

Exposure to toxic air contaminants would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the Project would be considered significant if the Project has the potential to generate odors that could adversely affect a substantial number of persons in the Project vicinity or locate receptors where they would be affected by an existing odor source.

3.4.2 Regulatory Setting

3.4.2.1 Federal

U.S. Environmental Protection Agency: At the Federal level, the EPA is charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the Clean Air Act (CAA), which was signed into law in 1970. Congress amended the CAA in 1977 and again in 1990.

Federal Clean Air Act: The CAA mandates the EPA establish National Ambient Air Quality Standards (NAAQS) and set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health; and secondary standards, which protect public welfare from non-health- related adverse effects, such as visibility restrictions.

The CAA also requires each State to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments of 1990 added requirements for States with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has oversight of all State SIPs to determine conformance with the CAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area that imposes additional control measures.

Toxic Substances Control Act: The Toxic Substances Control Act first authorizes the EPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response.

Hazard Emergency Response Act (AHERA): The AHERA requires local education agencies to inspect their schools for asbestos-containing building materials and prepare management plans to reduce the asbestos hazard. The act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

National Emission Standards for Hazardous Air Pollutants: Pursuant to the CAA of 1970, the EPA established the National Emission Standards for Hazardous Air Pollutants (NESHAP). These are technology-based, source-specific regulations that limit allowable emissions of hazardous air pollutants.

3.4.2.2 State

California Air Resources Board: As previously mentioned, the California Air Resources Board (CARB) is responsible for coordination and oversight of state and local air pollution control programs and for implementing the California Clean Air Act of 1988. Other CARB duties include: monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts); establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS; and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on a range of factors including the model year, and the type of vehicle, fuel and engine used.

California Clean Air Act: The California Clean Air Act (CCAA) requires that all air districts in the state endeavor to achieve and maintain CAAQS for ozone, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and authorizes districts to regulate indirect sources. Each district plan is required to either: (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors; or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Table 3-5. Summary of Ambient Air Quality Standards and San Diego County Attainment Designations

Summary of Ambient Air Quality Standards San Diego County Attainment Designation					
Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O3)	1-hour	0.09 ppm	Nonattainment	–	No Standard
	8-hour	0.07 ppm	Nonattainment	0.07 ppm	Serious Nonattainment
Respirable Particulate Matter (PM10)	AAM	20 µg/m^3	Nonattainment	–	No Standard
	24-hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassifiable
Fine Particulate Matter (PM2.5)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Attainment
	24-hour	–	No Standard	35 µg/m^3	Attainment
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment
	8-hour	9 ppm	Attainment	9 ppm	
Nitrogen Dioxide (NO2)	AAM		No Standard	0.053 ppm	Attainment
	1-hour	0.25 ppm	Attainment	100 ppb	No Standard
Sulfur Dioxide (SO2)	AAM	–	No Standard	0.03 ppm	Attainment
	24-hour	0.04 ppm	Attainment	0.14 ppm	No Standard
	3-hr	–	No Standard	0.5 ppm	Attainment
	1-hour	0.25 ppm	Attainment	75 ppb	No Standard
Lead	30-day Average	1.5 µg/m^3	Attainment	–	No Standard
	Rolling 3-Month Average	–	No Standard	1.5 µg/m^3	Attainment
Sulfates	24-hour	25 µg/m^3	Attainment	No Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	No Information		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km- visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

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3.4.2.3 Local

San Diego County Air Quality Management District (SDAQMD)

SDAQMD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in San Diego County. Responsibilities of the SDAQMD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the CAA and the CCAA.

The SDAQMD Rules and Regulations that are applicable to the Project include, but are not limited to, the following:

RULE 12. REGISTRATION OF SPECIFIED EQUIPMENT (Rev. Adopted & Effective March 10, 2022)

a) APPLICABILITY
   1) This rule applies to the following emission units:
      i) Existing internal combustion emergency standby engines that commenced operation in San Diego County on or before November 15, 2000. Such engines shall not be subject to Rule 69.4.1 – Stationary Reciprocating Internal Combustion Engines.
      ii) Existing stationary internal combustion engines rated at 200 brake horsepower or less which operate less than 200-hours per calendar year and commenced operation in San Diego County on or before November 15, 2000. Such engines shall not be subject to Rule 69.4.1 – Stationary Reciprocating Internal Combustion Engines.
      iii) Asphalt roofing kettles and asphalt roofing day tankers.
      iv) Any boiler, process heater or steam generator with a heat input rating greater than 2 million Btu per hour to less than 5 million Btu per hour, and fired with natural gas, liquefied petroleum gas, or liquid fuel.
      v) Paper shredders with a maximum throughput capacity of greater than 600 pounds per hour, either as rated by the manufacturer or as stated in writing by the manufacturer for the current configuration. This does not include hammer mills or any associated power units.
      vi) Grain silos used to brew beer at breweries that produce less than 100,000 barrels (3.1 million gallons) of beer per calendar year.
   2) This rule does not mandate the registration of any emission unit listed in Subsection (a)(1).
   3) Any emission unit registered under this rule shall be exempt from the requirements of Rule 10 – Permits Required and from the requirements of New Source Review Rules 20.1 through 20.8, inclusive.
   4) Registration under this rule or under District Rule 12.1 – Portable Equipment Registration, or by the California Air Resources Board pursuant to Health and Safety Code Section 41752, may be used in lieu of permitting. Any emission unit registered under this rule shall be precluded from simultaneously obtaining a Permit to Operate.
   5) Except as provided in Subsection (a)(3), compliance with this rule shall not exempt any emission unit specified in Subsection (a)(1) from meeting all other applicable requirements of these Rules and Regulations.

Rule 50 (Visible Emissions): No person shall discharge into the atmosphere from any single non-vehicular source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one hour which is:

- as dark or darker in shade No. 2 on the Ringelmann Chart, as published by the U.S. Bureau of Mines; or
- of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke, described in Section 1 of this Rule.

Rule 51 (Nuisance): No person shall discharge from any non-vehicular source such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause or have a natural tendency to cause injury or damage to business or property.

Rule 52 (Particulate Matter Concentration): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.10 grain per dry standard cubic foot (0.23 grams per dry standard cubic meter) of gas.

Rule 55 (Fugitive Dust Emissions): (1) Airborne Dust Beyond the Property Line: No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

b) TRACK-OUT/CARRY-OUT: Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall: (i) be minimized by the use of any of the following or equally effective trackout/carry-out and erosion control measures that apply to the Project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and (ii) be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM10-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

RULE 10 (PERMITS):

a) AUTHORITY TO CONSTRUCT. Any person building, erecting, altering or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminant, shall first obtain written authorization for such construction from the Air Pollution Control Officer. A separate Authority to Construct will be required for each piece of equipment, product line, system, process line or process that produces a product or performs a service independently of other equipment, product lines, systems, process lines or processes. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted or denied or the application is cancelled.

b) PERMIT TO OPERATE. Before a person operates or uses, or causes to be operated or used, any article, machine, equipment or other contrivance described in Rule 10(a) (Authority to Construct) that person shall obtain a written Permit to Operate from the Air Pollution Control Officer. No Permit to Operate or use shall be granted either by the Air Pollution Control Officer or the Hearing Board for any article, machine, equipment or contrivance described in Rule 10(a) which is constructed or installed without authorization as required by Rule 10(a) until all information required for the Authority to Construct of Rule 10(a) is presented to the Air Pollution Control Officer and such article, machine, equipment or contrivance is altered, if necessary, and made to conform to the standards set forth in Rule 20 and elsewhere in these Rules and Regulations. A separate Permit to Operate will be required for each piece of equipment, product line, system, process line or process that produces a product or performs a service independently of other equipment, product lines, systems, process lines or processes. A temporary authorization may be issued for the sole purpose of testing and/or evaluating the article, machine, equipment or contrivance to determine compliance with the conditions of the Authority to Construct, District Rules and Regulations and applicable state and federal law. A temporary authorization may be extended to cover the period before a final Permit to Operate can be issued provided the article, machine, equipment, or contrivance has been determined to be in compliance. For temporary operations as described in Rule 18(e), any temporary authorization shall be issued with a delayed effective date as specified in Rule 18(e). A final Permit to Operate shall not be issued while the Authority to Construct or temporary authorization is being appealed before the Hearing Board in accordance with Rule 25 of District Rules and Regulations. A temporary authorization for testing and/or evaluation as provided herein may be issued despite an appeal of the Authority to Construct filed pursuant to Rule 25(b). In the case of an appeal of an Authority to Construct for equipment proposed to be installed in conjunction with existing equipment operating under a Permit to Operate, to comply with new requirements of District Rules and Regulations, enforcement of the new requirements shall be deferred until the appeal is resolved. This paragraph applies only to an Authority to Construct issued before the effective date of the new requirements.

c) POSTING OF PERMIT TO OPERATE. A person who has been granted under Rule 10(a) Permit to Operate any article, machine, equipment or other contrivance described in Rule 10(b), shall firmly affix the current Permit to Operate or an approved facsimile upon the article, machine, equipment or other contrivance in such a manner as to be clearly visible and accessible. In the event that the article, machine, equipment or other contrivance is so constructed or operated that the Permit to Operate cannot be so placed, the Permit to Operate shall be mounted so as to be clearly visible in an accessible place within 25 feet of the article, machine, equipment or other contrivance, or maintained readily available at all times on the operating premises.

d) ALTERATION OF PERMIT. A person shall not willfully deface, alter, forge, counterfeit or falsify any permit issued under these Rules and Regulations.

e) CONTROL EQUIPMENT. Nothing in this rule shall be construed to authorize the control officer to require the use of machinery, devices or equipment of a particular type or design, if the required emission standard may be met by machinery, device, equipment, product or process change otherwise available.

f) ANNUAL RENEWAL OF PERMITS TO OPERATE. Permits to Operate shall be renewable annually on a staggered schedule to be determined by the Air Pollution Control Officer. Any person who holds a Permit to Operate as required by Rule 10(b) and who desires to operate any article, machine, equipment or other contrivance pursuant to said permit after the expiration date of the permit shall, prior to the expiration date of the permit, apply to the Air Pollution Control Officer for an annual renewal permit. Expired permits may be reinstated only:

1) Within the first six months following the expiration date of the permit, and
2) Upon application for renewal to the Air Pollution Control Officer, and
3) Upon payment of the appropriate renewal fee and penalty. (See Rule 40 for applicable fees.)

g) CHANGE OF LOCATION. Any person who possesses a Permit to Operate any article, machine, equipment or other contrivance and desires to change the location of such article, machine, equipment or other contrivance shall first apply to the Air Pollution Control Officer for an Authority to Construct and Permit to Operate. (See Rule 40 for applicable fees.) The provisions of Rule 10(i) shall not apply to any change of work location for any portable article, machine, equipment or other portable contrivance, or any change of location within a contiguous parcel of land in the possession of, or owned by, or recorded as the property of, the same person.

RULE 1411/Appendix A: INSIGNIFICANT UNITS (Revision adopted 5/23/01; Effective 12/31/01) (Rev. 8/13/03; Eff. 2/27/04). This listing is of equipment determined to be insignificant units under this regulation due to the relatively low potential to emit. An insignificant unit shall not include any unit subject to an applicable requirement other than District Rules 50 and 51.

a) Any engines mounted on, within or incorporated into any vehicle, train, ship, boat or barge, that are used exclusively to provide propulsion, supply heat or electrical energy to that same vehicle, train, ship, boat, or barge, or that are used exclusively to load or unload cargo. Sand, rock, silt, soil or other materials which come from the bottom of a body of water shall not be considered cargo. This exemption is not intended to apply to equipment used for the dredging of waterways, to floating dry docks, or to equipment used in pile driving adjacent to or in waterways.
b) Equipment utilized exclusively in connection with any structure, which is designed for and used exclusively as a dwelling for not more than four families.
c) Air pollution control equipment associated with any article, machine, equipment, process or contrivance not required to have a permit to operate.
d) The following equipment: (Rev. 8/13/03; Eff. 2/27/04)
   (i) Motor vehicle engines, pile drivers (except for Diesel pile driving hammers), and construction cranes that are routinely dismantled and transported to non-contiguous locations for temporary use;
   (ii) Railway, road and runway sweepers used respectively for cleaning rail tracks, roadways and runways, provided the maximum manufacturer's output rating of any auxiliary sweeper engine is 50 brake horsepower or less;
   (iii) Stationary and portable internal combustion engines with a brake horsepower output rating of 50 or less.

San Diego County Air Quality Control District Thresholds of Significance

Projects that produce emissions that exceed the significance thresholds identified in Section 3.4.2.2, above, shall be considered significant for a project level and/or cumulatively considerable impact on air quality.

3.4.2.4 Regulatory Attainment Designations

Under the CCAA, the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment (the most severe of the classifications). An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and NO2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM10 based on the likelihood that they would violate national PM10 standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SDAQMD are summarized in Table 3-5. San Diego County (Lakeside area) is currently designated as a State and federal nonattainment area for ozone and a State nonattainment area for particulate matter (PM10 and PM2.5).

3.4.3 Impact Assessment

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. As noted in Impact Assessment b and c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance. Projects that do not exceed the recommended thresholds are not considered to conflict with or obstruct the implementation of applicable air quality plans.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact. Due to the region's nonattainment status, SDAQMD has adopted thresholds of significance for ROG, NO_X, and particulate matter (PM_{10} or smaller). As demonstrated in Table 3-6, the emissions generated by the Project's construction phase would not exceed the SDAQMD thresholds of significance.

Table 3-6. Construction-Related Emissions of Criteria Air Pollutants

Short-Term Construction-Related Emissions of Criteria Air Pollutants					
	ROG	NO_X	PM_{10} /$PM_{2.5}$	CO	SO_2
Summer (daily max)	5.72 lbs/day	48.8 lbs/day	4.33/2.66 lbs/day	49.1 lbs/day	0.11 lbs/day
Winter (daily max)	10.6 lbs/day	95.7 lbs/day	7.19/5.15 lbs/day	291.0 lbs/day	0.18 lbs/day
Annual (max)	0.66 tons/year	5.45 tons/year	0.26/0.22 tons/year	5.55 tons/year	0.01 tons/year
SDAQMD Thresholds of Significance	137 lbs/day 15 tons/year	250 lbs/day 40 tons/year	100/55 lbs/day 15/10 tons/year	550 lbs/day 100 tons/year	250 lbs/day 40 tons/year
Exceeds SDAQMD thresholds?	No	No	No	N/A	N/A

Since the Project involves upgrades to an existing pump station, long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. However, estimated long-term operational emissions were calculated using online version of CalEEmod, Soft Release and are displayed in Table 3-7. Worker and vendor commute trips will be unchanged, as no additional long-term operational or maintenance staff will be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions. As demonstrated in Table 3-7, the emissions generated by the Project's operational phase would not exceed the SDAQMD thresholds of significance. Therefore, Project-related impacts to air quality would be considered less than significant.

Table 3-7. Long-Term Operational Emissions of Criteria Air Pollutants

Long-Term Operational Emissions of Criteria Air Pollutants					
	ROG	NO_X	PM_{10} or smaller	CO	SO_2
Summer (daily max)	2.90 lbs/day	12.3 lbs/day	0.40/0.41 lbs/day	7.24 lbs/day	0.01 lbs/day
Winter (daily max)	2.87 lbs/day	12.3 lbs/day	0.40/0.40 lbs/day	7.01 lbs/day	0.01 lbs/day
Annual (max)	0.09 tons/year	0.31 tons/year	0.06/0.06 tons/year	0.20 tons/year	0.005 tons/year
SDAQMD Thresholds of Significance	137 lbs/day 15 tons/year	250 lbs/day 40 tons/year	100/55 lbs/day 15/10 tons/year	550 lbs/day 100 tons/year	250 lbs/day 40 tons/year
Exceeds SDAQMD thresholds?	No	No	No	N/A	N/A

Construction-Related Emissions

Construction-generated emissions are temporary in duration, lasting 450-days. The construction of the Project would result in the temporary generation of emissions associated with site grading and excavation, motor vehicle exhaust from construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces.

It is important to note that the Project would be required to comply with all applicable SDAQMD Rules and Regulations, including but not limited to Rule 50, Rule 51, Rule 52, Rule 55, and Insignificant Units, as mentioned above in Section 3.4.3.3. Compliance with these Rules and Regulations would further reduce construction- related emissions, minimizing the Project's potential to adversely impact air quality.

Given that construction-related emissions would not exceed applicable SDAQMD significance thresholds and the Project would be required to comply with all applicable SDAQMD Rules and Regulations, construction- related emissions of criteria pollutants would be considered less than significant.

Operational Emissions

Long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. Worker and vendor trips will not increase, and stationary sources and operational equipment will be similar to those currently in use at the existing Lake Jennings Pumping Station. Furthermore, estimated operational emissions do not exceed SDAQMD's significance thresholds. Therefore, Project-related emissions of criteria air pollutants would be considered less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?
Less than Significant Impact. The Project involves improvements to an existing pumping station in the Helix Water District. Construction and operation activities associated with the Project are not anticipated to result in a substantial increase in pollutant concentrations, as discussed above in Impact Assessment b)-d). Therefore, Project-related impacts to sensitive receptors (residences) in the vicinity would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
No Impact. The Project involves new facilities and upgrades to existing facilities in unincorporated Lakeside, County of San Diego. Although this particular area is designated by the general plan and zoned for industrial use, there are residential developments in the vicinity. However, odor impacts are not expected from this Project.

The owner will be responsible for obtaining both the Authority to Construct Permit as well as the Permit to Operate the facility. Both permits will need to follow state and local regulations, including, but not limited to those outlined above.

3.5 Biological Resources

Table 3-8. Biological Resources Impacts

Biological Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife 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, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

3.5.1 Environmental Setting

The Project is located within the unincorporated community of Lakeside within the County of San Diego, California along the western shoreline of Lake Jennings. The 66-acre Project study area includes 500-foot buffers from proposed pipeline alignments and associated staging and work areas.

Like most of California, Lakeside, California has a Mediterranean climate. Warm dry summers are followed by cool moist winters. Over the course of the year, the temperature typically varies from 40 degrees to 90 degrees Fahrenheit. Annual precipitation within the vicinity of the Project is about 14 inches, the majority of which falls between the months of October and April. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the Project Site.

The Project Site is immediately surrounded by residential development to the west and south, residential/ camping areas and a nature preserve (Hanson El Monte Pond) to the north, and Lake Jennings and recreational/ biking trail areas to the east of the Project Site.

3.5.1.1 Methodology

A field survey of the Project area was conducted in April 2022, as further described below by Lohstroh Biological Consulting (LBC); a Biological Constraints Report for the site was completed by LBC in February 2023; and an Aquatic Resources Delineation Report was completed by LBC in February 2023. The Biological Constraints Report, in its entirety, is available as **Appendix B** at the end of this document, and the Aquatic Resources Delineation Report, in its entirety, is available as Appendix B at the end of this document.

The assessments completed by LBC focused on determining the existing vegetation communities present on the property, the presence of sensitive biological resources such as special status species or their habitat, sensitive vegetation communities, and an aquatic resources delineation. Focused surveys for coastal California gnatcatcher (*Polioptila californica californica*; CAGN) were conducted during the breeding season as part of this assessment and a large portion of the study area exists within federal designated critical habitat (DCH) for CAGN.

As part of its assessment for drafting the Biological Constraints Report, LBC conducted a desktop analysis prior to visiting the study area, which included review of aerial photographs, topographic maps, the California Natural Diversity Database (CNDDB), U.S. Fish and Wildlife Service (USFWS) critical habitat and the USFWS National Wetlands Inventory. The study area was then surveyed on foot by LBC Principal Biologist, Brian Lohstroh, over the course of three visits in conjunction with the CAGN surveys that occurred April 15-29, 2022. Meandering transects were walked to view all of the study area and adjacent areas, search for special status species, and map vegetation communities. Vegetation communities were mapped according to Oberbauer et al. 2008. Vegetation mapped in the field was then imported to ArcGIS software and overlaid on a current aerial image to create a map of existing vegetation. Plant and wildlife species observed within the study area were recorded and suitable habitat for special status species and/or other sensitive biological resources, if present, were also documented. Wildlife species were identified by direct observation, vocalization, or by the presence of sign (tracks, scat, feathers, etc.).

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the State’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described in **Section 3.5.2**, State and federal laws have provided California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under State and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by CDFW. The California Native

Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special status species."

The California Natural Diversity Database (CNDDB) was queried for special status species occurrences within the Project area. These species, and their potential to occur onsite, are listed in Table 3-9 and Table 3-10. A complete list of references is available in the Biological Constraints Report as **Appendix B** at the end of this document.

As part of its preparation of the Aquatic Resources Delineation Report, LBC conducted a desktop analysis prior to visiting the study area, which included review of aerial imagery, topographic maps, The 2020 National Wetland Plant List, National Wetland Inventory (NWI), NHD/ Watershed Boundary Dataset, FEMA Flood Map Service Center, The Natural Resources Conservation Service (NRCS) Web Soil Survey, NRCS Official Soils Series Descriptions, The National List of Hydric Soils, and the Agricultural Applied Climate Information System (NOAA) mapping data. The study area was then surveyed by foot and a formal aquatic resource delineation ("Survey Area") of the study area was conducted by LBC Principal Biologist, Brian Lohstroh, on October 18, 2022. A follow-up survey was conducted on November 9, 2022, to evaluate additional areas that resulted from design updates. As further described in the Aquatic Resources Delineation Report in Appendix B, all potential Waters of the U.S. identified within the Survey Area were delineated to their jurisdictional limits as defined by 33CFR § 328.4 (Limits of Jurisdiction). The 2008 Supplement Wetland Determination Data Form-Arid West Region (Environmental Laboratory 2008) was used to document the presence/absence of potential wetlands at five locations within the Survey Area. The 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet (Curtis and Lichvar 2010) was completed to document the OHWM associated with the unnamed drainage connected to the dam spillway. All data forms are included in Appendix C: Data Forms in Appendix B. Additionally, an OMBIL Regulatory Module (ORM) bulk upload spreadsheet for USACE jurisdictional waters has been completed and will be submitted to the USACE for verification of this aquatic resource delineation (Appendix D) in the attached Aquatic Resources Delineation Report (Appendix B).

The Survey Area contained the amount and type of potential aquatic resources reported in Table 1 in Appendix B. In summary, potential aquatic resources delineated include: aquatic resources that are jurisdictional to USACE totaling 20.32 acres; 974 linear feet consisting of 0.91 acres of wetland waters of the U.S. ; 19.40 acres of non-wetland waters of the U.S.; aquatic resources that are jurisdictional to RWQCB totaling 20.49 acres and 4305 linear feet; aquatic resources jurisdictional to CDFW totaling 20.91 acres consisting of 1.59 acres of riparian habitat/wetlands; and 19.32 acres of streambed, lake and bank.

3.5.1.2 Project Site Existing Conditions

At the time of the April 2022 field survey, the APE consisted of approximately 66 acres, which includes 500-foot buffers from proposed pipeline alignments and associated staging and work areas.

The Project Site includes shallow to moderately steep vegetated slopes and ridgelines associated with Lake Jennings and its earthen dam. Lake Jennings is a drinking water reservoir completed in 1964, owned and operated by the Helix Water District, which provides water to the cities of El Cajon, La Mesa, Lemon Grove and unincorporated areas of the County of San Diego. The Helix Water District's R.M. Levy Water Treatment Plant is located in the southwestern corner of the study area. The Harold Ball Pump Station and Chet Harritt Pump Station are located at the base of the dam to the north of the plant. and The Lake Jennings Campground is located along the northwestern edge of the study area. Elevation above mean sea level within the Project Site ranges from approximately 785 feet in the extreme

northern portion of the study area, to approximately 510 feet below the dam in the western portion of the study area. The reservoir surface level is designed to operate at approximately 700 feet above mean sea level.

The Project Site consists of various vegetation communities including a small area of Coast Live Oak Woodlands (located along the western extent of the study area), Developed Lands within the western and southern portions of the study area (including industrial development and associated infrastructure), Diegan Coastal Sage Scrub (throughout the study area), Diegan Coastal Sage Scrub-Chaparral (in the southern portion of the study area), Disturbed Habitat (associated with the spillway and around the pump station at the base of the dam), Eucalyptus Woodland (along the lakeshore fringe in the eastern portion of the study area and within the campground within the northern portion of the study area), Freshwater Marsh (along the lakeshore fringe), Non-Native Grassland (throughout the study area), Open Water (associated with Lake Jennings), Ornamental Plantings (within developed areas), and Southern Willow Scrub (along the lakeshore fringe).

The Project Site contains five soil mapping units: Bosanko stony clay, 5 to 9 percent slopes; Escondido very fine sandy loam, 15 to 30 percent slopes, eroded; Friant fine sandy loam, 30 to 50 percent slopes; Friant rocky fine sandy loam, 30 to 70 percent slopes; and Huerhuero loam, 5 to 9 percent slopes, eroded. None of the listed mapping units located within the Project area are considered hydric, meaning that they do not tend to pond water consistently enough to support the growth of wetland vegetation.

Wildlife species observed within the Project Site included over fifty avian species, three reptile species and two mammal species. Lake Jennings can account for the relatively high diversity of avian species in the study area, which attracts numerous aquatic and non-aquatic species. Species observed ranged from the relatively common mallard (*Anas platyrhynchos*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), California Thrasher (*Toxostoma redivivum*), northern mockingbird (*Mimus polyglottos*), and California towhee (*Melozone crissalis*), to the less typically observed American white pelican *(Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus)*, and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). Reptiles observed included Great Basin fence lizard (*Sceloporus occidentalis longipes*), Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*), and southern Pacific rattlesnake (Crotalus oreganus helleri). Mammals observed included California ground squirrel (Otospermophilus beecheyi), and desert cottontail (Sylvilagus audubonii).

Table 3-9. List of Special Status Plants with Potential to Occur in the Project Vicinity

Species	Status	Habitat	Potential for Occurrence
San Diego Thorn-mint (*Acanthomintha ilicifolia*)	FT, CA-E, CRPR 1B.1	Requires clay soils: vernal pools, depressions on mesas, chaparral slopes, coastal sage scrub, grasslands below 3,300 feet in elevation.	**Not Expected.** Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records within 2 miles of study area.
California Adolphia *(Adolphia californica)*	CRPR 2B.1	Coastal sage scrub and chaparral below 1,300 ft in elevation, generally within 10 miles of coast in San Diego region.	**Not Expected**. Study area is east of typical range for this species, nearest records are over 5 miles away to the west and southwest. Would have been observed if present.

Species	Status	Habitat	Potential for Occurrence
San Diego Ambrosia *(Ambrosia pumila)*	FE, CRPR 1B.1	Requires open, unshaded habitat including disturbed areas, seasonally dry drainages, and floodplains below 2,000 ft.	**Low.** Nearest records are over 3 miles away to the southwest. Not observed during site visits.
Dean's Milk-vetch (*Astragalus deanei)*	CRPR 1B.1	Open shrubby slopes in chaparral between 805 ft and 2,625 ft elevation; often proliferates in recently burned areas.	**Not Expected.** No suitable habitat present within study area, nearest records are over 5 miles to the east.
San Diego Goldenstar *(Bloomeria clevelandii)*	CRPR 1B.1	Clay soils on dry mesas and hillsides in coastal sage scrub, chaparral or valley grassland below 1,525 ft in elevation.	**Moderate.** Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records within 2 miles of study area.
Thread-leaved Brodiaea *(Brodiaea filifolia)*	FT, CA-E, CRPR 1B.1	Clay soils in vernally moist grasslands and vernal pool periphery are typical locales.	**Not Expected**. No suitable habitat present within study area and no occurrences within 5 miles of study area.
Orcutt's Brodiaea *(Brodiaea orcuttii)*	CRPR 1B.1	Associated with vernal pools and grassland areas near streams below 5,250 ft elevation; often associated with clay soils.	**Not Expected**. No suitable habitat present within study area. Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records approximately 5 miles from study area.
Lakeside Ceanothus (*Ceanothus cyaneus*)	CRPR 1B.1	Occurs in chaparral, most commonly found in the foothills between Lakeside and Ramona. Elevation: 150 ft-3,450 ft	**Not Expected.** No suitable habitat present within the study area. Nearest records are over 1 mile away to the southwest.
Delicate Clarkia *(Clarkia delicata)*	CRPR 1B.1	Foothill woodland and chaparral between 770 ft and 3,280 ft in elevation.	**Moderate.** Marginal habitat present within study area, not observed during site visits. Nearest records are approximately 3 miles away to south.
Variegated Dudleya *(Dudleya variegata)*	CRPR 1B.1	Clay soils dry hillsides, mesas within coastal sage scrub, foothill woodland, chaparral, and valley grassland in southwestern San Diego County; often associated with vernal pools. Elevation: < 985 ft	**Low.** Marginal habitat present within study area, nearest records are over 5 miles to the southwest.
Palmer's Goldenbush *(Ericameria palmeri var. palmeri)*	CRPR 1B.1	Coastal sage scrub in southern San Diego County below 2000 ft in elevation.	**Low.** Suitable habitat present within study area, but would have been observed if present. Nearest records approximately 2

Species	Status	Habitat	Potential for Occurrence
			miles to the north.
San Diego Barrel Cactus (*Ferocactus viridescens)*	CRPR 2B.1	Dry, rocky slopes in coastal sage scrub, maritime succulent scrub and chaparral below 500 ft in elevation.	**Low**. Suitable habitat present within study area, but would have been observed if present. Nearest records approximately 4 miles to the southwest.
Decumbent Goldenbush (*Isocoma menziesii var. decumbens)*	CRPR 1B.1	Grasslands, coastal sage scrub in sandy soils below 650 feet in elevation.	**Low.** Suitable habitat present within study area, but would have been observed if present. Nearest records within 2 miles of study area. Study area is at edge of elevational range.

Table 3-10. List of Special Status Animals with Potential to Occur in the Project Vicinity

Species	Status	Habitat	Potential for Occurrence
Invertebrates			
Quino checkerspot Butterfly *(Euphydryas editha quino)*	FEFE	Open, dry areas in foothills and mesas where principal larval host plants dot-seed plantain, and secondary host plants woolly plantain, white snapdragon, thread-leaved bird's beak, and purple owl's clover occurs. Adult emergence mid-January to April.	**Low.** Hostplant observed within study area, but habitat is marginal. At edge of recommended survey area.
Hermes Copper Butterfly *(Lycaena hermes)*	FT	Chaparral and coastal sage scrub where host plant spiny redberry occurs, especially in conjunction with California buckwheat. Adult emergence late May to July.	**Not expected.** No host plant observed within study area.
Amphibians			
Arroyo Toad *(Anaxyrus Californicus)*	FE, CSSC	Breeds in shallow pools along stream edges with sand/gravel flats between March and June. Adults use upland habitat within one mile of breeding sites. Non-breeding habitat includes sage scrub, mixed chaparral, and oak woodland habitats.	**Not expected**. No suitable breeding habitat within Project vicinity, no occurrences within 5 miles of study area.

Species	Status	Habitat	Potential for Occurrence
Western Spadefoot *(Spea hammondii)*	CSSC	Found in lowland, foothill, and mountain habitats including washes, river floodplains, alluvial fans, playas, alkali flats, temporary ponds, vernal pools, mixed woodlands, grasslands, coastal sage scrub, and chaparral. Breeds in temporary pools and slow-moving sections of streams.	**Low**. No suitable breeding habitat observed within study area. May use uplands in study area to forage, but breeding habitat in vicinity of study area appears limited.
Reptiles			
Southern California Legless Lizard *(Anniella stebbinsi)*	CSSC	Found in leaf litter and loose soil on beaches and in coastal scrub, chaparral, and open riparian habitats. Sandy washes and beach dunes are used for burrowing, while logs and leaf litter are used for cover and feeding.	**Low.** Limited suitable habitat within study area.
California Glossy Snake (*Arizona elegans occidentalis*)	CSSC	Chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains and rocky hillsides.	**Moderate.** Some areas of suitable habitat within study area, CNDDB records within 2 miles.
Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythra*)	WL	Open coastal sage scrub, chaparral, and streamside growth with loose sandy soils, revegetation sites.	**Present.** Observed within study area.
Coastal Whiptail *(Aspidoscelis tigris stejnegeri)*	CSSC	Found in a variety of habitats, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	**High.** Suitable habitat present within study area.
Red-diamond Rattlesnake *(Crotalus ruber)*	CSSC	Coastal sage scrub, open chaparral, woodland, grassland, and cultivated areas.	**High**. Suitable habitat present within study area.
Coast Horned Lizard *(Phrynosoma blainvillii)*	CSSC	Open chaparral, coastal sage scrub with sandy, loose soil. Partially dependent on harvester ants for forage.	**High**. Suitable habitat present within study area.
Coronado Skink *(Plestiodon skiltonianus interparietalis)*	WL	Associated with mesic areas: grasslands, open woodlands and forest, broken chaparral, rocky habitats near streams.	**Moderate.** Some areas of Suitable habitat within study area.
Coast Patch-nosed Snake *(Salvadora hexalepis virgultea*)	CSSC	Chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains and rocky hillsides.	**Moderate.** Some areas of suitable habitat within study area.

Species	Status	Habitat	Potential for Occurrence
Two-striped Gartersnake *(Thamnophis hammondii*)	CSSC	Permanent fresh water, inhabiting streams, ponds, vernal pools. Occupies adjacent coastal sage scrub and grasslands during the winter.	**Moderate.** Some areas of Suitable habitat within study area.
Birds			
Cooper's Hawk (nesting) *(Accipiter cooperii)*	WL	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	**Present.** Observed within study area, suitable nesting habitat present within study area, but no nests observed.
Tricolored Blackbird (nesting colony) *(Agelaius tricolor)*	CA-T, CSSC	Freshwater marshes agricultural areas, lakeshores, parks. Localized resident. Breeding colonies well documented, inland San Diego County.	**Not expected**. Some suitable habitat, but no known nesting colony within study area.
Southern California Rufous-crowned Sparrow *(Aimophila ruficeps canescens)*	WL	Coastal sage scrub, chaparral, grassland. Resident.	**Present.** Observed within study area.
Grasshopper Sparrow (nesting) *(Ammodramus savannarum)*	CSSC	Tall grass areas. Localized summer resident, rare in winter.	**Low.** Marginal habitat within study area.
Golden Eagle (nesting and wintering) *(Aquila chrysaetos)*	FP; WL	Require vast foraging areas in grassland, broken chaparral, or sage scrub. Nest in cliffs and boulders. In the county, wintering range does not differ greatly from breeding distribution. Uncommon resident.	**Low.** May occasionally forage within study area, but no nesting habitat present.
Coastal Cactus Wren *(Campylorhynchus brunneicapillus sandiegensis)*	CSSC	Maritime succulent scrub, coastal sage scrub with Opuntia thickets. Rare localized resident.	**Present.** Observed within study area.
Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	FE, CA-E	Breeding range in southwestern United States. Nests in relatively dense riparian vegetation where surface water is present, or soil moisture is high enough to maintain the appropriate vegetation characteristics.	**Not expected.** No suitable breeding habitat present.
Bald Eagle (nesting and wintering) *(Haliaeetus Leucocephalus)*	CA-E, FP	Rivers, lakes. Feed mainly on fish.	**Present**. Observed within study area, known to winter in area.
Yellow-breasted Chat *(Icteria virens)*	CSSC	Dense riparian woodland. Localized summer resident.	**Not expected.** No suitable habitat present within study area.

Species	Status	Habitat	Potential for Occurrence
Osprey (nesting) ***(Pandion aliaetus)***	WL	Coast, lowland lakes, rarely foothills and mountain lakes. Uncommon fall/winter resident, rare in spring and summer. Fish are the primary prey item.	**High**. Individual observed within study area and may nest nearby.
American White Pelican (nesting colony) ***(Pelecanus Erythrorhynchos)***	CSSC	Lagoons, bays, estuaries, freshwater ponds; inland lakes during spring migration. Migrant and winter visitor.	**Not expected**. Individuals observed within Project vicinity, but nesting not observed and unlikely.
Double-crested Cormorant (nesting colony) ***(Phalacrocorax Auratus)***	WL	WL Bays, lagoons, estuaries.	**Not expected.** Individuals observed within Project vicinity, but nesting not observed and unlikely.
Coastal California Gnatcatcher (*Polioptila californica californica)*	FT, CSSC	Coastal sage scrub, maritime succulent scrub. Resident.	**Present**. Observed within study area.
Least Bell's Vireo (nesting) ***(Vireo bellii pusillus)***	FE, CA-E	Willow-dominated successional woodland or scrub, Baccharis scrub, mixed oak/willow woodland, and elderberry scrub in riparian habitat. Nests and forages in vegetation along streams and rivers that measures approximately 3 to 6 feet in height and has a dense, stratified canopy.	**Not expected**. No suitable nesting habitat present within study area.
Mammals			
Dulzura Pocket Mouse (*Chaetodipus californicus femoralis)*	CSSC	Dense chamise-redshank & montane chaparral, coastal sage scrub, sagebrush, annual grassland, probably most attracted to interface of grassland and brush.	**Moderate**. Some areas of suitable habitat within study area.
Northwestern San Diego Pocket Mouse ***(Chaetodipus fallax fallax)***	CSSC	San Diego County west of mountains in sparse, disturbed coastal sage scrub or grasslands with sandy soils.	**High.** Suitable habitat present within study area.
Townsend's Big-eared Bat *(Corynorhinus Townsendii)*	CSSC	Caves, mines, buildings. Found in a variety of habitats, arid and mesic. Individual or colonial. Extremely sensitive to disturbance.	**Low.** Limited suitable habitat within study area, most areas disturbed.
Western Mastiff Bat ***(Eumops perotis californicus)***	CSSC	Woodlands, rocky habitat, arid and semiarid lowlands, cliffs, crevices, buildings, tree hollows.	**Low.** Limited suitable habitat within study area.

Species	Status	Habitat	Potential for Occurrence
Western Yellow Bat *(Lasiurus xanthinus)*	CSSC	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees.	**Low**. Limited suitable habitat within study area.
San Diego Black-tailed Jackrabbit *(Lepus californicus bennettii)*	CSSC	Open areas of scrub, grasslands, agricultural fields.	**Low.** Marginal habitat within study area, not observed during site visits.
San Diego Desert Woodrat (*Neotoma lepida intermedia)*	CSSC	Coastal sage scrub and chaparral.	**Moderate.** Some areas of suitable habitat within study area.
Pocketed Free-tailed Bat *(Nyctinomops femorosaccus)*	CSSC	Pinyon-juniper woodlands, desert scrub, desert riparian, Joshua tree, and palm oasis. Prefers rock crevices in cliffs as roosting sites.	**Moderate**. Limited roosting sites within study area, but CNDDB records exist at Lake Jennings.
Big Free-tailed Bat (*Nyctinomops macrotis)*	CSSC	Rugged, rocky terrain. Roost in crevices, buildings, caves, tree holes. Very rare in San Diego County. Colonial, Migratory.	**Low.** Limited suitable habitat within study area.
American Badger *(Taxidea taxus)*	CSSC	Grasslands, savannas, meadows, sparse scrublands with friable soils. Requires lots of undeveloped open space for its home range.	**Not expected.** No suitable habitat within study area.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
FC	Federal Candidate
WL	Watch List
CA-E	California Endangered
CA-T	California Threatened
CCE	California Candidate Endangered
CCT	California Candidate Threatened
CFP	California Fully Protected
CRPR	California Rare Plant Rank
CSSC	California Species of Special Concern

CNPS LISTING

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3.5.2 Regulatory Setting

3.5.2.1 Threatened and Endangered Species

State and federal "endangered species" legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both CDFW and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (Fish and Game Code Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 United

States Code (USC), Section 1532(19), 50 Code of Federal Regulations (CFR), Section 17.3). Furthermore, CDFW and USFWS are responsible agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.5.2.2 Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Although the USFWS and its parent administration, the U.S. Department of the Interior, have traditionally interpreted the MBTA as prohibiting incidental as well as intentional "take" of birds, a January 2018 legal opinion issued by the Department of the Interior now states that incidental take of migratory birds while engaging in otherwise lawful activities is permissible under the MBTA. However, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800), even during lawful activities.

3.5.2.3 Birds of Prey

Birds of prey are also protected in California under provisions of Fish and Game Code Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.5.2.4 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by CDFW.

3.5.2.5 California Fully Protected Species

The classification of certain animal species as "fully protected" was the State of California's initial effort in the 1960s, prior to the passage of the California Endangered Species Act (CESA), to identify and provide additional protection to those species that were rare or faced possible extinction. Following CESA enactment in 1970, many fully protected species were also listed as California threatened or endangered. The fully protected species are identified, and their protections stipulated, in Fish and Game Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except in conjunction with necessary scientific research and protection of livestock.

3.5.2.6 Designated Critical Habitat

As part of listing species under the ESA, areas essential to that species' conservation are identified as designated critical habitat (DCH) by the USFWS. Critical habitat does not prevent all development or other activities that occur in a designated area, but only activities that involve a federal permit (e.g., CWA Section 404 permit), license, or funding, and are likely to destroy or adversely modify critical habitat will be affected. In such cases, the USFWS works with the agency and landowners to amend the project to enable it to proceed without adversely affecting critical habitat.

California Gnatcatcher

USFWS DCH for the California Gnatcatcher (CAGN) exists within the study area as shown on Figure 4 in **Appendix B**. Consultation with the USFWS is required under Section 7 of the ESA if the Project involves federal permitting or authorization.

3.5.2.7 Wetlands and Other Jurisdictional Waters

The United States Army Corps of Engineers (USACE) regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. Natural drainage channels and adjacent wetlands may be considered "Waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE.

Relatively recent changes in regulations have transpired relating to defining waters of the U.S. On June 9, 2021, the U.S. Environmental Protection Agency (EPA) and USACE announced their intention to start a new rulemaking process to redefine waters of the U.S. from those definitions provided by the Navigable Waters Protection Rule (NWPR) that went into effect on June 22, 2020. The NWPR classified federal waters of the U.S. as navigable waters and the core tributary systems that provide perennial or intermittent flow into them. Ephemeral features (defined in the Arid West as those that flow only in direct response to rainfall) were no longer classified as waters of the U.S. On August 30, 2021, a U.S. District Judge for the District of Arizona vacated and remanded the NWPR in the case of Pascua Yaqui Tribe v. U.S. Environmental Protection Agency, No. CV-20-00266-TUC-RM (D. Arizona Aug. 30, 2021). Pursuant to this order, the U.S. EPA and USACE have halted implementation of the NWPR and provided notice to interpret waters of the U.S. consistent with the pre-2015 regulatory regime. On December 30, 2022, the EPA published a final revised definition of Waters of the United States to reflect consideration of Supreme Court decisions, the science, and the agencies' technical expertise (EPA 2022). This final definition uses the pre-2015 regulations as a foundation to provide clear rules of the road that will help advance infrastructure projects, economic investments, and agricultural activities. Under this guidance, the USACE jurisdiction will be determined as follows: USACE will assert jurisdiction over the following waters:

- Traditional navigable waters (TNWs; i.e., all tidal waters and waters that have been, could be, or are used in interstate or foreign commerce);

- U.S. Territorial Seas that extend 3 miles out to sea from the coast;

- Impoundments of water created in or from waters of the U.S., like reservoirs and beaver ponds;

- Tributaries that ultimately flow into traditional navigable waters, the territorial seas, interstate waters, or impoundments of jurisdictional waters. Tributaries are jurisdictional if they meet either the relatively permanent standard or significant nexus standard (see below).

• Wetlands adjacent to jurisdictional waters, TNWs, territorial seas or an interstate water (most often within a few hundred feet of jurisdictional waters);

• Additional waters: Certain lakes, ponds, streams, or wetlands that do not fit into the above categories. They are jurisdictional if they meet either the relatively permanent standard or the significant nexus standard.

To determine jurisdiction for tributaries, adjacent wetlands and additional waters, two longstanding standards for determining Jurisdiction are applied:

• Relatively permanent waters (RPWs): To meet the relatively permanent standard, the waterbodies must be relatively permanent, standing, or continuously flowing waters connected to TNWs, territorial seas or interstate [paragraph (a)(1)] waters or waters with a continuous surface connection to such relatively permanent waters, TNWs, territorial seas or interstate waters.

• The Significant Nexus standard is a fact-based analysis that clarifies if certain waterbodies, such as tributaries and wetlands, are subject to the Clean Water Act based on their connection to and effect on larger downstream waters that Congress fundamentally sought to protect. A significant nexus exists if the waterbody (alone or in combination) significantly affects the chemical, physical, or biological integrity of traditional navigable waters, the territorial seas, or interstate waters.

All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from

their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.5.3 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. As discussed in **Chapter 2, Project Description**, Helix Water District proposes the following improvements to its facilities: replacement of the current Chet Harritt Pump Station (circa 1970) with a new pump station; implementation of an aeration system within Lake Jennings; and installation of an effluent flow meter for the existing 5.3 million gallon-capacity Clearwell Tank. All proposed activities will take place within a 66-acre Project area. As the effluent flow meter installation would not result in impacts on biological resources, the Biological Constraints report completed by Lohstroh Biological Consulting focuses on the pump station and aeration system improvements.

The proposed Project will incur direct impacts to native plant communities and aquatic resources. The Project will also incur indirect impacts to CAGN (noise, disturbance, loss of designated critical habitat). An Informal Section 7 consultation with USFWS has been completed at this time, and the mitigation and avoidance requirements set forth in that document have been incorporated in **Appendix B**.

Project-Related Mortality/ Disturbance of California Gnatcatcher (CAGN) and General Avian Protection Recommendations

As discussed in **Appendix B**, key special status wildlife species that were observed onsite during the survey visits included California Gnatcatcher (CAGN) (*Polioptila californica*, Federal-listed Threatened species and a California Species of Special Concern), Coastal Cactus Wren (*Campylorhynchus brunneicapillus*, California Species of Special Concern), and Raptors, including Bald Eagle *(Haliaeetus leucocephalus)*, California listed as Endangered [CA-E] and California Fully Protected Species [FP]), Cooper's Hawk (*Accipiter cooperii*; California Watch List Species [WL]), red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*). There is the potential for direct impacts to CAGN, Coastal Cactus Wren, and/ or other special status avian species (including those protected under the MBTA) during the breeding season (from February 1 to September 15). Project-related injury or mortality of CAGN and the above listed species would violate the federal Endangered Species Act and be considered a significant impact of the project under CEQA.

Conformance with Federal Issues

Since federal funding is being utilized for the Project, the following questions must be addressed:

1. Does the Project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on site, in the surrounding area, or in the service area? USFWS Designated Critical Habitat for CAGN exists within the Project survey

area. The Biological Constraints Report provided in **Appendix B** explains that the proposed Project would incur direct impacts to native plant communities and aquatic resources. The Project will also incur indirect impacts to CAGN, including noise, disturbance, and loss of habitat. Mitigation recommendations and proposed design features have been provided for both direct and indirect impacts to biological resources, with emphasis on avoidance of take of CAGN and other special status avian species. An Informal Section 7 consultation with USFWS has been completed at this time, and the mitigation and avoidance requirements set forth in that document have been incorporated in **Appendix B**.

2. Does the Project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat? The Project is not expected to involve any direct or indirect effects to essential fish habitat located within Lake Jennings or any of the Project area. As described in Table 5 in **Appendix B,** the proposed Project is expected to result in 0.073 acres of direct, permanent impacts to open water (Lake Jennings). These impacts will be mitigated, and due to their minimal size of impact, these direct impacts are not expected to have direct or indirect effects that will adversely affect essential fish habitat. In addition to this, appropriate erosion and sediment pollution measures will be implemented and monitored on a regular basis as part of the Project. The Project will comply with the Construction Generic Permit during construction and an effective SWPPP will be developed and implemented that will prescribe appropriate best management practices (BMPs) to avoid or limit runoff, erosion, and sediment transport that could affect essential fish habitat within Lake Jennings.

3. Is any portion of the Project site located within the coastal zone? No portion of the Project site is located within the coastal zone boundary. The Project site is located approximately 18.7 miles outside of the coastal zone boundary.

4. Will the Project affect protected migratory birds that are known, or have a potential, to occur on site, in the surrounding area, or in the service area? The Project is not expected to affect protected migratory birds that are known, or have a potential to occur on site, in the surrounding area, or in the service area. As further described in Mitigation Measure BIO-1B below, in order to avoid direct impacts on breeding birds, including the coastal cactus wren, raptors, and/or other special status avian species, removal of vegetation within the proposed area of disturbance should occur outside of the breeding season for these species (January 15through September 15). If work must occur during the breeding season, a preconstruction nesting bird survey will be conducted by a qualified biologist and no work shall be pursued that would violate the Migratory Bird Treaty Act.

5. Does any portion of the Project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the U.S. Army Corps of Engineers (USACE)? A wetland delineation was performed on the Project site by Lohstroh Biological Consulting on October 18 and November 9, 2022. A full copy of the Aquatic Resources Delineation Report is provided in Appendix B. It has been determined that a USACE Permit will be required to implement the Project because the Project would result in the discharge of dredge or fill material into a Water of the United States.

6. Is any portion of the Project located within a Wild and Scenic River? No portion of the Project is located within or adjacent to a California Wild and Scenic River.

3.5.3.1 Mitigation Measures

The following avoidance and minimization measures are intended to reduce and minimize direct and indirect impacts to CAGN and other avian species resulting from the Project.

BIO-1A: As specified in the Project Informal Section 7 Consultation, the following measures will be implemented to avoid and minimize indirect impacts to CAGN:

1. For temporary impacts to gnatcatcher habitat, the work site will be returned to preexisting contours, where feasible, and revegetated with appropriate local native species. Native hydroseed will be used to revegetate after construction is completed. The seed mix will be developed in coordination with a biologist familiar with the habitat constituents onsite. The application of hydroseed will be conducted under the supervision of the biologist.

2. The alignment of pipelines will be coordinated with a biologist familiar with the sensitivity of coastal sage scrub to minimize impacts to the habitat.

3. Impacts will be minimized through the timing of work in suitable CAGN habitat to avoid the breeding season (February 15 to August 30) for the species whenever possible. Areas of coastal sage scrub habitat to be directly impacted by construction shall be cleared or grubbed prior to the CAGN breeding season. If construction activities must commence during the breeding season, impacts will be minimized by conducting nest surveys within 300 feet of all proposed activities no more than seven days in advance of proposed work. If an active nest is encountered, no construction activities will be implemented within a minimum distance of 100 feet of the nest.

4. All construction areas adjacent to coastal sage scrub habitat will retain the boundary fencing between the construction area and the habitat or be temporarily fenced, if there is no existing fence, to prevent the expansion of the disturbance footprint. Any violations of the corridor will be documented and reported by the District.

5. Landscaping of construction areas will be conducted in a manner compatible with normal operational requirements of the Water Treatment Plant and Pump Station and designed to minimize erosion and weedy species invasion into adjacent coastal sage scrub.

6. Construction work areas will be watered as needed to control dust during work periods.

BIO-1B: To avoid direct impacts on breeding birds, including the coastal cactus wren, raptors, and/or other special status avian species, removal of vegetation within the proposed area of disturbance should occur outside of the breeding season for these species (January 15 through September 15). If the removal of vegetation within the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds within the proposed area of disturbance. The preconstruction survey shall be conducted within seven calendar days prior to the start of construction activities, including the removal of vegetation. If active nest(s) are detected, the biologist will determine an appropriate avoidance buffer and monitor the nest(s) during construction until no longer active. If construction must occur in proximity to the active nest(s), appropriate noise attenuation measures and a monitoring regimen shall be implemented.

Implementation of the above mitigation measures would reduce Project-related impacts to CAGN and to other special status avian species, in accordance with the Informal Section 7 consultation that has been completed with USFWS.

Project-Related Impacts to Loss of Habitat for Special Status Plants

No Federal or California-listed threatened or endangered plant species were observed within the Project Site. One special status vascular plant species was observed within the Project Site: San Diego sunflower (*Bahiopsis laciniata*). This species has a California Rare Plant Rank (CRPR) of 4.3 (CNPS 2022, Green et al. 2016); List 4 indicates that it is a plant of limited distribution, intended as a watch list and the ".3" indicates that it is not very endangered in California.

The following plant species (as listed in Table 3-9), also have the potential to be found within the Project Site: San Diego Thorn-mint (*Acanthomintha ilicifolia*), California Adolphia (*Adolphia californica*), San Diego Ambrosia (*Ambrosia pumila*), Dean's Milk-vetch (*Astragalus deanei*), San Diego Goldenstar (*Bloomeria clevelandii*), Thread-leaved Brodiaea (*Brodiaea filifolia*), Orcutt's Brodiaea (*Brodiaea orcuttii*), Lakeside Ceanothus (*Ceanothus cyaneus*), Delicate Clarkia (*Clarkia delicata*), Variegated Dudleya (*Dudleya variegata*), Palmer's Goldenbush (*Ericameria palmeri var. palmeri*), San Diego Barrel Cactus (*Ferocactus viridescens*), and Decumbent Goldenbush (*Isocoma menziesii var. decumbens*).

Due to habitat loss or degradation associated with human disturbance onsite, the absence of any historical suitable habitat, and/or the location of the site being outside a particular species' range, none of these species are expected to occur onsite. Therefore, the Project would be unlikely to affect regional populations of these species and impacts would be less than significant. Mitigation measures are not warranted. (Appendix B).

Project-Related Impacts to Loss of Habitat for Special Status Animals

As discussed, the APE has the potential to be used in some form by a number of special status animal species. As recommended in **Appendix B**, native habitat areas that undergo temporary impacts should be restored following a restoration plan developed by a qualified biologist and approved by the Helix Water District, and mitigation for any permanent impacts within native habitat can be achieved through onsite habitat creation and/or enhancement, or through the purchase of mitigation credits at an agency-approved mitigation bank.

Project-Related Impacts to Special Status Animal Species Absent from or Unlikely to Occur Within the Project Site

Of the 37 special status animal species that have the potential to occur in the Project vicinity, 9 are considered absent or unlikely to occur on site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the distance of the site from the known distribution of the species. These species include the Hermes Copper Butterfly (*Lycaena hermes*), Arroyo Toad (*Anaxyrus californicus*), Tricolored Blackbird (nesting colony) (*Agelaius tricolor*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Yellow- breasted Chat (*Icteria virens*), American White Pelican (nesting colony) (*Pelecanus Erythrorhynchos*), Double-crested Cormorant (nesting colony) (*Phalacrocorax Auratus),* Least Bell's Vireo (nesting) (*Vireo bellii pusillus*), and American Badger (*Taxidea taxus*)(see Table 3-10). Since there is little to no likelihood that these species would occur onsite, Project implementation is not likely to adversely affect these species, and Project-related impacts are considered less than significant. Mitigation measures are not warranted. (Appendix B)

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

Less than Significant with Mitigation Incorporated. U.S. Fish and Wildlife Service **(**USFWS) designated critical habitat (DCH) for the California Gnatcatcher (CAGN) exists within the Project Site as shown in Figure 4 in **Appendix B**. Consultation with the USFWS is required under Section 7 of the Endangered Species Act (ESA) if the Project involves Federal permitting or authorization, and an Informal Section 7 Consultation has been completed at this time. As recommended in **Appendix B**, native habitat areas that undergo temporary impacts should be restored following a restoration plan developed by a qualified biologist and approved by the Helix Water District, and mitigation for any permanent impacts within native habitat can be achieved through onsite habitat creation and/or enhancement, or through the purchase of mitigation credits at an agency-approved mitigation bank.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact with Mitigation Incorporated. Lake Jennings is considered a jurisdictional "Water of the United States" by the current definition (EPA 2021) and some areas along the immediate lakeshore fringe of Lake Jennings are considered wetlands jurisdictional to the USACE, RWQCB, and CDFW. As further described in Appendix B, potential USACE aquatic resources (waters of the U.S.) are mapped on Figure 7 and include waters with observed OHWM and/or adjacent 3-parameter wetlands. Potential RWQCB aquatic resources (waters of the State) are mapped on Figure 8, and include USACE-jurisdictional aquatic resources, plus additional RWQCB-jurisdictional features. Potential CDFW aquatic resources (riparian habitat/wetlands and streambed/bank) are mapped on Figure 9 and include those mapped for the USACE as well as streambed extending to top of bank, the lake shore and adjacent riparian features. These federal and State waters include an ephemeral streambed connected to the dam spillway, a dam seepage channel as well as associated wetlands and riparian habitat along Lake Jennings.

Overall, aquatic resources as summarized in Table 1 in Appendix B included aquatic resources that are potentially jurisdictional to USACE totaling 20.32 acres; 974 linear feet consisting of 0.91 acres of wetland waters of the U.S. and State; 19.40 acres of non-wetland waters of the U.S. and State; and aquatic resources that are potentially jurisdictional to CDFW totaling 20.91 acres consisting of 1.59 acres of riparian habitat/wetlands and 19.32 acres of streambed, lake and bank

A USACE Section 404 Permit will be required for the Project if the Project will result in the discharge of dredge and fill material into Waters of the United States. An RWQCB Section 401 Water Quality Certification will also be required if the Project will result in a discharge to Waters of the United States to verify that the Project will comply with State water quality standards. In addition, a CDFW Section 1600 Lake or Streambed Alteration Agreement will also be required if the proposed activity has the potential to detrimentally affect a stream and/or lake, and thereby, wildlife resources that depend on that stream and/or lake for continued viability. The portion of the proposed Project that encompasses Lake Jennings (lacustrine habitat) and its immediate shoreline would be subject to CDFW Region 5 (South Coast Region) jurisdiction. If the

Project involves regulated activities that could result in any alteration to riparian habitat and/or a stream or lakebed, a Lake or Streambed Alteration Agreement from CDFW would be required.

The Project was designed to avoid or minimize impacts on sensitive resources and wetlands to the greatest extent feasible by using existing developed areas for staging and minimizing construction-related work areas and access routes in native habitat. The Project has gone through many design iterations, resulting in the relocation of proposed pipelines. As such, some temporary and permanent impacts to wetlands will result from Project activities. Project features including the pump station impact footprint, pipeline routes, and staging areas are shown on Figure 4.

Mitigation for any permanent wetland impacts will be achieved through onsite habitat creation and/ or enhancement, or through the purchase of mitigation credits at an agency-approved mitigation bank. Any wetlands that undergo temporary impacts will be restored following a restoration plan developed by a qualified biologist and approved by the Helix Water District.

Degradation of Water Quality in Seasonal Drainages and Downstream Waters

Extensive ground disturbance associated with construction projects often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Runoff is often polluted with grease, oil, pesticide and herbicide residues, and/or heavy metals.

Water quality of downstream waters could be significantly impacted by construction activities occurring within the Project Site. Runoff could enter one of the ephemeral drainage areas on the site and make its way to waterbodies or wetlands jurisdictional to the USACE, RWQCB, and CDFW, or it could directly enter Lake Jennings, which is also considered jurisdictional to the USACE, RWQCB, and CDFW. Degradation of water quality in these downstream waters as a result of Project construction would be considered a potentially significant impact.

3.5.3.2 Mitigation Measures

Habitat Impact Mitigation Recommendations

As discussed in **Appendix B**, the proposed Project will incur direct and indirect impacts to native plant communities and aquatic resources.

Direct impacts occur when biological resources are altered, disturbed, destroyed, or removed during the course of project implementation. Direct impacts may include direct losses of habitat, potential jurisdictional waters, wetlands, special-status species, and diverting natural surface water flows. Direct impacts are those that involve ground disturbance and loss of the original ground cover due to grading, construction, and maneuvering or staging. Direct impacts will result from construction activities, including pipeline installation, grading activities (e.g., creation of temporary work areas), maneuvering or staging of equipment, and pump station construction. Indirect impacts can result from noise, light, disturbance, or loss of designated critical habitat during construction.

The Project was designed to avoid or minimize impacts on sensitive resources to the greatest extent feasible by using existing developed areas for staging and minimizing construction-related work areas and access routes in native habitat. The Project has gone through multiple design iterations, which has resulted in the relocation of proposed pipelines. As such, some temporary and permanent impacts will result from Project activities.

The following measures would be implemented during all proposed construction activities in order to reduce the potential for additional direct or indirect impacts to biological resources.

BIO-1C: The District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary orange construction fencing, which clearly delineates the edge of the approved limits of grading and clearing as well as the edges of environmentally sensitive areas, specifically Diegan coastal sage scrub and aquatic resources, adjacent to the Project. The biological monitor will verify the Project limits of work.

The full-time biological monitoring is required during all vegetation clearing, grubbing, and/or trimming and as needed during the remainder of construction activities. The District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. Monitoring shall include the inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. The biologist will also verify that Project activities are in compliance with the Project requirements and mitigation measures.

The qualified biologist will prepare and give a worker environmental awareness training to all on-site employees prior to the start of construction activities. New employees will be trained prior to the start of work on the site. The environmental awareness training will include a discussion of all sensitive resources that occur within the Project limits and with the potential to be directly or indirectly impacted. The training will also discuss the required compliance with Project design features, mitigation measures, and permit conditions.

Implementation of the above measures will reduce potential direct and indirect impacts to biological resources during construction.

The following measures would be implemented if construction activities will result in direct (permanent) or temporary impacts within the Project Site.

BIO-1D: The District shall implement compensatory mitigation for impacts to sensitive habitat according to the ratios provided in the table below, unless otherwise conditioned in permits and/or discretionary approvals issued by the USFWS, USACE, RWQCB, and/or CDFW, as applicable.

Mitigation Ratios for Impacts to Sensitive Natural Communities

Sensitive Natural Community	Mitigation Ratio
Non-native grassland	0.5:1
Diegan coastal sage scrub	2:1
Freshwater marsh	3:1

Southern willow scrub	3:1
Open water	1:1

Sensitive vegetation communities that undergo temporary impacts should be restored following an approved restoration plan developed by a qualified biologist. Mitigation for any permanent impacts within sensitive vegetation communities can be achieved through on-site habitat creation, restoration, enhancement and/or preservation, or through the purchase of mitigation credits at an agency-approved mitigation bank.

The District shall restore or revegetate temporary impact areas at a 1:1 ratio through the preparation and implementation of a restoration plan, which shall include the following, as prepared by a qualified biologist or restoration specialist, at a minimum:

• Location of the restoration site;

• Plant species to be used, container sizes, and seeding rates;

• Schematic depicting the restoration area;

• Planting schedule;

• Description of the irrigation methodology;

• Measures to control exotic vegetation on site;

• Specific success criteria;

• Monitoring program;

• Contingency measures should the success criteria not be met; and

• Identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

BIO-1E: If direct impacts to jurisdictional waters and/or wetlands cannot be avoided (i.e., discharge of dredge or fill material, destruction of riparian habitat, modification of streambed or lake), the District shall complete the following:

• Prepare and submit a notification, as applicable, to the USACE for unavoidable impacts to Waters of the U.S. pursuant to the Clean Water Act Section 404;

• Prepare and submit a Clean Water Act Section 401 Request for Water Quality Certification or State Porter-Cologne Water Quality Control Act Report of Waste Discharge to the RWQCB for unavoidable impacts to Waters of the State; and

• Prepare and submit a CFG Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to jurisdictional streambed and riparian habitat.

The District shall implement compensatory mitigation at a minimum ratio of 1:1, which could be adjusted during permitting with the USACE, RWQCB, and CDFW, for unavoidable temporary and permanent impacts on jurisdictional waters and wetlands, which would include one or a combination of the following measures:

• Purchase of preservation, establishment, re-establishment, rehabilitation and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank or another approved mitigation bank in the region.

• Implement permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

• Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a 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 providing for the conservation of the mitigation.

• A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

Implementation of the above measures will reduce potential impacts to biological and aquatic resources and upland sensitive communities within the Project area, as well as provide mitigation for unavoidable impacts to these resources.

Additional Mitigation Recommendations

The following measures would be implemented to prevent sedimentation and degradation of downstream waters.

BIO-1F: Fencing should be installed around the construction limits to minimize impacts and deter wildlife and unaffiliated personnel from entering the construction site. All impacts outside of the designated construction limits should be avoided.

BIO-1G: Appropriate erosion, dust control, and stormwater pollution prevention measures should be implemented and monitored on a regular basis. The Project will comply with the Construction General Permit and Air Quality Management District rules and standards during construction. Dust control measures will include spraying work or driving areas with water and careful operation of equipment. An effective SWPPP will be developed and implemented that

prescribes appropriate best management practices (BMPs) to avoid or limit runoff, erosion, and sediment transport.

BIO-1H: Spill prevention measures should be implemented, including providing secondary containment on all foreign liquids and pollutants placed within the construction area. Fueling should be avoided within 100 feet of aquatic resources. Drip pans should be used under all idle equipment. Spill kits should be onsite throughout duration of construction. A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction.

Implementation of the above measures will reduce potential impacts to downstream water quality to a less than significant level.

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?

Less than Significant Impact with Mitigation Incorporated. The Project will incur indirect impacts to CAGN (California Gnatcatcher) that will include noise, disturbance, and loss of designated critical habitat. Mitigation recommendations and proposed design features have been provided in Appendix **B** for both direct and indirect impacts to biological resources, with emphasis on avoidance of take of CAGN and other special status avian species. A USACE permit would be required to implement the Project because the Project would result in the discharge of dredge of fill material into a Waters of the United States. At a minimum, pre-construction notification for use of any applicable USACE nationwide permits would be mandatory due to the presence of designated critical habitat. An Informal Section 7 consultation with USFWS has been completed at this time, and the mitigation and avoidance requirements set forth in that document have been incorporated in **Appendix B**.

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

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 with Mitigation Incorporated (Response for e & f). The San Diego County General Plan shows that the Project is located within a Resource Conservation Area known as El Cajon Mountain- El Capitan Reservoir. This large area contains very steep slopes (the portion in Lakeside about 60 to 70 percent is greater than 50% slope) and isolated rocky peaks and ridges, including some of the largest granitic domes in San Diego County. Vegetation is excellent wildlife habitat with Oak woodlands, Coastal Sage scrub and Mixed and Chamise chaparral. The area contains such rare and endangered plants as the type locality for the threatened Lakeside wild lilac (*Ceanothus syaneus*), the threatened Morena current (*Ribes canthariforme*), the Felt leaf rock mint (*Monardella hypoleuca ssp. lanata*) and Adders tongue fern (*Ophioglossum californicum*), the very rare and endemic Dense reed grass (*Calamogrostis densa*) and the rare Ramona cinquefoil (*Horkelia truncata*). The area contains historical and existing golden eagle nest sites. The rocky peaks, especially El Cajon Mountain, serve as a scenic backdrop for El Cajon as well as the Lakeside region.

The following policies and recommendations are outlined in the Lakeside Community Plan Section of the San Diego County General Plan for activities within all Resource Conservation Areas within the Lakeside community and should be followed for this Project to avoid adverse impacts within the El Cajon Mountain- El Capitan Reservoir Conservation Area:

POLICIES AND RECOMMENDATIONS

1. Encourage types and patterns of development that minimize water pollution, air pollution, fire hazard, soil erosion, silting, slide damage, flooding, and severe hillside cutting and scarring.
2. Preserve the best natural features of the area in their natural state and avoid the creation of a totally urbanized landscape.
3. Protect groundwater supplies from pollution and depletion through enforcement of the County Groundwater Ordinance.
4. Ensure that land uses within or adjacent to recreational, natural preserve, agricultural, or industrial areas are compatible with those areas.
5. Identify and apply the Scenic Area (S) Special Area Designator to sites where significant natural landmarks are located.
6. Identify and apply the Historic District Preservation Area (H) Special Area Designator to sites and structures that are historically significant.
7. Minimize visual pollution by creating and periodically reviewing sign, landscaping, architecture, and utility standards.
8. Require the isolation of roadside properties from major roads and prime arterials with buffer zones of vegetation or earth barriers to protect adjacent areas from pollutants such as noise, exhaust, and light.
9. Encourage the preservation of mature trees on public and private property, and require equitable replacement of those removed.
10. As a condition of any future discretionary permit, including but not limited to Site Plan review, Tentative Maps, Tentative Parcel Maps, Major or Minor Use Permits, etc., for projects proposed in the RiverWay Specific Plan Area as shown on Figure 1-4 of the Upper San Diego River Improvement Project Final Environmental Impact Report (EIR) (Log No. 98-10-014), the feasible mitigation measures identified in the EIR shall be implemented where applicable.

3.6 Cultural Resources

Table 3-11. Cultural Resources Impacts

Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.6.1 Environmental Setting

Cultural resources are found throughout San Diego County and are a reminder of the County's prehistoric and historic past. San Diego County has an estimated 30,000 documented cultural resources. These resources include districts, sites, buildings, structures, objects, and ethnographic locations. In San Diego County, these resources span a period of approximately 10,000 years starting with the Paleoindian and Archaic Periods to the historic Spanish, Mexican, and more recently American Periods.

3.6.1.1 Records Search

Black & Veatch requested a records search from the South Coastal Information Center (SCIC) for the Project Area of Potential Effect (APE) and a ¼-mile radius on August 5th, 2022. The records search included a review of all previously identified cultural resources as well as reports on file. Documents received from the record search indicated that four cultural resources sites have been previously identified within the quarter-mile radius surrounding the Project area. Two of these sites CA-SDI-19644 (P-37-030954) and CA-SDI-19752 (P-37-031176) are scatters of marine shell with no associated artifacts. Both are located approximately 0.20 miles northwest of the Project Site. Of the two remaining cultural resources sites identified in the record search, one CA-SDI-19645 (P-37-030955) is listed as an historic concrete foundation with container glass fragment. The site is located approximately 0.24 miles south of the Project Site. The resource form indicates that investigators interpreted the site as a possible animal shelter dating to the mid 1960's. The last cultural resources site identified in the records search was the Chet Harritt Dam (P-37-38826). Built between 1960 and 1962, the dam was constructed to supply drinking water to the surrounding communities. Information listed on the resource form indicates that the dam is one of dozens of dams constructed within San Diego County during the mid-twentieth century and it is not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR). While a small section of the Project alignment is located within a portion of the dam, no significant impacts to the dam are anticipated as a result of the Project (Appendix C).

3.6.1.2 Native American Outreach

In compliance with both CEQA regulations and Section 106 of the National Historic Preservation Act (NHPA) Ms. Ashley Longrie of the Environmental Protection Agency (EPA) contacted the Native American Heritage Commission (NAHC) in early April of 2022 for a Sacred Land File (SLF) search. A response from the NAHC was received by Ms. Longrie on April 25th, 2022, with positive results for the Project area. The NAHC provided a list of thirteen tribal organizations that should be contacted and stated that the Barona Group of the Capitan Grande (Barona) and the Viejas Band of Kumeyaay Indians (Viejas) in particular should be contacted from the list and that the Kumeyaay Cultural Repatriation Committee (KCRC) not on the list should also be contacted for more information. Letters to all tribal groups were sent via certified mail in early May of 2022 with follow up email correspondence shortly thereafter. On May 11th, 2022, the Viejas responded via email to Ms. Longrie, indicating that they reviewed the proposed Project and determined that the Project Site has cultural significance or ties to the Viejas. They requested that a Kumeyaay Cultural Monitor be on site for ground disturbing activities to inform them of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. On May 20th, 2022, Ms. Ashley Longrie called the KCRC to request an appropriate email address to send Project information to. Ms. Longrie spoke with Mr. Clint Linton of the KCRC, who requested additional information on the Project during that phone call. Later that same day Ms. Longrie emailed a portion of the requested Project information to Mr. Linton and indicated that she would send the remaining information once it became available. On June 14th, 2022, Ms. Longie sent a follow up email to Mr. Linton with the balance of information he had previously requested for the Project. Following that email on June 14th, no further inquiries and or comments have been received from Mr. Linton, nor any other tribal representatives. Further discussion and details of the outreach efforts can be found in Appendix C.

3.6.1.3 Field Survey

While no survey was conducted for the current proposed Project, two previous cultural resources surveys have been conducted for major portions of the current Project alignment. The first was a mitigated negative declaration (MND) conducted for the R.M. Levy Water Treatment Plant Expansion Project in 1997. Results of that survey were negative for the presence of cultural resources. The second and more recent survey conducted in 2021 was for a sewer pipeline replacement project also located within the proposed Project alignment. In both instances, the two previous surveys covered all portions of the Project alignment that may have any potential to contain cultural resources. Remaining portions of the Project alignment not covered by these surveys include an area of steep embankment that leads to Lake Jennings Road and an area up the northern drainage swale of the Chet Harritt Dam. A review of recently captured virtual walkdown imagery of the Project area using virtual 360 technology shows that, not only is the steep embankment area and northern drainage swale of the Chet Harritt Dam heavily disturbed, but all other portions of the proposed Project appear to be heavily disturbed from past construction activities as well. While some introduced plants, grasses, and weeds are present in some areas, natural vegetation was only observed in the general vicinity and consisted mostly of coastal sage scrub plants, including sagebrush, various sages, and chamise. Visibility along the Project alignment ranged from 80 to 100 percent. Further details regarding previous surveys and the current proposed Project can be found in Appendix C.

3.6.1.4 Project Site Existing Conditions

The Project Site consists of the existing Water Treatment Plant facilities and a small portion of the Chet Harritt Dam. Both the Water Treatment Plant and the dam were initially constructed in the early-1960's. Since that time, the Water Treatment Plant and facilities have been subject to significant modifications

and the ground surface has been heavily disturbed by grading, subterranean excavations, and the installation of above- and below-ground facility equipment. No archaeological resources have been identified during previous surveys conducted in 1997 or 2021 at the Treatment Plant and none were observed during the current review of virtual Project imagery. Due to the substantial modifications at the Water Treatment Plant none of the existing Plant elements or structures appear to be eligible for inclusion in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) under any of the relevant criteria. No part of the Project Site is considered a significant historical resource or unique archaeological resource. Further details regarding previous surveys and the current Project can be found in Appendix C.

3.6.2 Regulatory Setting

3.6.2.1 Federal

The definition of a federal undertaking in 36 CFR 800.16(y) includes projects requiring a federal permit, license, or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), and the National Environmental Policy Act. Properties of traditional, religious, and cultural importance to Native Americans are considered under both Section 101 (d)(6)(A) and Section 106 36 (CFR 800.3-800.10) of the NHPA

Section 106 of the NHPA (16 United States Code 470f) requires federal agencies to account for the effects of their undertakings on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected historic property is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Historic properties are those significant cultural resources listed in or are eligible for listing in the NRHP.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it meets one or more of the following criteria:

- Are associated with events that have made a significant contribution to the broad patterns of our history
- Are associated with the lives of persons significant in our past
- Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- Have yielded, or may be likely to yield, information important in prehistory or history

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, a federal law and joint resolution of Congress was created to protect and preserve the traditional religious rights and cultural practices of American Indians,

Eskimos, Aleuts and Native Hawaiians. These rights include, but are not limited to, access of sacred sites, repatriation of sacred objects held in museums, freedom to worship through ceremonial and traditional rites, including within prisons, and use and possession of objects considered sacred.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act requires federal agencies and institutions that receive federal funding to return Native American cultural items to lineal descendants and culturally affiliated Indian tribes and Native Hawaiian organizations. Cultural items include human remains, funerary objects, sacred objects, and objects of cultural patrimony.

3.6.2.2 State

The California Environmental Quality Act (CEQA) requires that a lead agency determine if a project could have a significant effect on historical resources. For the purposes of CEQA, a "historical resource" is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Title 14 CCR Section 15064.5[a][1]-[3]). Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]).

Historically significant cultural resources are defined by eligibility for or by listing in the CRHR. In practice, the federal NRHP criteria for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see (PRC) Section 5024.1; Title 14 of the California Code of Regulations (CCR), Sections 4852 and 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

- Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Are associated with the lives of persons important in our past;
- Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

California Health and Safety Code: Health and Safety Code Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the County coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. PRC Section 5097.98 specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials is within the jurisdiction of the Native American Heritage Commission.

Paleontological Resources: Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources. CEQA requires that a determination be made as to whether a

project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4(a)(1)). PRC Section 5097.5 (see above) also applies to paleontological resources.

3.6.2.3 Local

San Diego County Local Register of Historical Resources Ordinance 9493[14]: The County requires that resource importance be assessed not only at the state level as required by CEQA, but at a local level as well. If a resource meets any of the following criteria as outlined in the local register, it will be considered an important resource:

- Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage.
- Is associated with the lives of persons important to the history of San Diego County or its communities.
- Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history

San Diego County Resource Protection Ordinance (RPO): The County of San Diego's RPO protects significant cultural resources. The RPO defines "Significant Prehistoric or Historic Sites" as follows: Sites that provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious, or other ethnic value of local, regional, State, or Federal importance. Such locations shall include, but not be limited to:

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 National Register of Historic Places by the Keeper of the National Register, or
   b. To which the Historic Resources ("H" Designator) Special Area Regulations have been applied, or
2. One-of-a-kind, locally unique, or regionally unique cultural resources which contain a significant volume and range 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 Resource Code Section 5097.9, such as burials, pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground features or

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Society of Vertebrate Paleontology. Conformable Impact Mitigation Guidelines Committee Policy Statements. http://www.vertpaleo.org/ConformableImpactMitigationGuidelinesCommittee.htm.

San Diego County Administrative Code. https://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/localregordin.pdf Accessed 24 August 2022

b. Other formally designated and recognized sites which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

The RPO does not allow non-exempt activities or uses damaging to the significant prehistoric or historic lands on properties under County jurisdiction. This includes development, trenching, grading, clearing and grubbing, or any use damaging to significant prehistoric or historic lands. The only exempt activity is a scientific investigation with an approved research design prepared by an archaeologist certified by the Register of Professional Archaeologists. All discretionary projects are required to be in conformance with applicable County Standards related to cultural resources, including the noted RPO criteria on prehistoric and historic sites. Non-compliance would result in a project that is inconsistent with County Standards.

3.6.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less than Significant Impact. Black & Veatch archaeologists requested a records search at the South Coastal Information Center (SCIC) for the Project APE and a ¼-mile radius on August 5th, 2022, to assist in the identification of historic resources within proximity to the proposed Project. The records search identified four cultural resources sites within a ¼-mile radius of the Project APE. Two of those sites CA-SDI-19644 (P-37-030954) and CA-SDI-19752 (P-37-031176) were marine shell scatters with no associated artifacts, a third site CA-SDI-19645 (P-37-030955) was listed as a concrete foundation with container glass fragments, and the fourth site was the Chet Harritt Dam (P-37-38826). The closest of these cultural resource sites to the Project is the dam itself. While a small section of piping is proposed to be installed within the northern drainage swale of the dam as part of the Project, the piping will be undetectable once construction is complete, as it will be buried beneath the drainage swale and not visible. Additionally, information listed on the resource form for the Chet Harritt Dam indicates that the resource has been found ineligible for listing on the NRHP, the CRHR, or local designation under any criteria, based on a previous survey evaluation by Helix Environmental Planning on September 25th, 2019. While the State Historic Preservation Office (SHPO) has not provided comment on the eligibility status of the Chet Harritt Dam at the present time, it is unlikely that SHPO would come to a different determination then that of the surveyors evaluating the dam. As a result, the proposed Project will have a less than significant impact on any historic resources.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impacts with Mitigation Incorporated.

While no survey was conducted for the current proposed Project, two previous cultural resources surveys have been conducted for major portions of the current Project alignment. The first was an MND conducted for the R.M. Levy Water Treatment Plant Expansion in 1997, the results of which were negative for the presence of cultural resources. The second and more recent survey conducted in 2021 was for a sewer pipeline replacement project also located within the current proposed Project alignment. In both instances the two surveys covered all portions of the Project alignment that may have any potential to contain archaeological resources, and none were identified. Remaining portions of the Project alignment not covered by these surveys include an area of steep embankment that leads to Lake Jennings Road and the

northern drainage swale of the Chet Harritt Dam. A review of recently captured virtual walkdown imagery of the Project area using virtual 360 technology shows that not only is the steep embankment area and northern drainage swale of the Chet Harritt Dam heavily disturbed, but all other portions of the proposed Project appear to be heavily disturbed from past construction activities as well (See Appendix C).

Although no archaeological resources have been identified within the Project alignment during either previous surveys or the current review, there is a potential for construction of the proposed Project to impact previously unidentified archaeological deposits. The following mitigation measure CUL-1 will be implemented to reduce impacts to unknown subsurface archaeological resources. With implementation of mitigation measure CUL-1, impacts to archaeological resources pursuant to Section 15064.5 would be reduced to a less-than-significant level.

c) **Disturb any human remains, including those interred outside of dedicated cemeteries? Less than Significant Impact with Mitigation Incorporated.** The Project alignment is not currently used as a cemetery and is not otherwise known to contain human remains. However, there is a potential to discover unknown buried Native American human remains or sacred features during construction. If unanticipated Native American human remains or sacred features were discovered because of ground-disturbing activities, then the Project would have a significant impact on disturbance of human remains. With implementation of Mitigation Measure CUL-2, impacts to previously unknown human remains would be reduced to a less-than-significant level.

3.6.3.1 Mitigation

The following mitigation measures would be implemented in the event suspected cultural resources or human remains are discovered during ground disturbing activity:

CUL-1 (Archaeological Resources). In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find. Construction activities may continue in other areas but should be redirected a safe distance from the find. If the new discovery is evaluated and found to be significant under CEQA and avoidance is not feasible, additional work such as data recovery may be warranted. In such an event, a data recovery plan should be developed by the qualified archaeologist in consultation with the lead agency and Native American representatives, if applicable. Ground disturbing work can continue in the area of the find only after impacts to the resources have been mitigated and with lead agency approval.

CUL-2 (Human or Potentially human remains). In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify the person or

persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site and make recommendations for the treatment and disposition, in consultation with the property owner, of the human remains.

3.7 Energy

Table 3-12. Energy Impacts

Energy					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.7.1 Environmental Setting and Baseline Conditions

Power is already available at the site to operate the various facilities and will continue to be provided by San Diego Gas and Electric Company

3.7.2 Impact Assessment

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? and,

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact (Response for a & b). The facility utilizes energy to operate the pump station and other infrastructure as a required public facility. The Project will upgrade existing equipment, and as such they are anticipated to be more energy efficient and sustainable than the aging or obsolete equipment they are replacing. Thus, energy use during operation would be similar to, or slightly higher than existing conditions with the addition of the new compressor system. Construction of the Project would require energy use, but this use would not be wasteful or inefficient, nor would it require new or expanded electric power or natural gas facilities. No features of the Project would conflict with or obstruct state or local plans for renewable energy or energy efficiency. The Project would not require the relocation or construction of new or expanded electric or natural gas power generating facilities. The impact on energy use and energy plans would be less than significant.

3.8 Geology and Soils

Table 3-13. Geology and Soils Impacts

Geology and Soils				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1- B of the most recently adopted Uniform Building Code creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological resource or site or unique geologic feature?	☐	☐	☐	☒

3.8.1 Environmental Setting

Using the USDA NRCS soil survey of San Diego County, a report of the onsite soils was generated and is provided in **Appendix D**.

3.8.1.1 Geology and Soils

The Project is located in southern San Diego County, southwest California. The El Cajon quadrangle, which contains the Project, includes parts of two physiographic provinces: the Peninsular Ranges Province on the west underlies a major part of the quadrangle; the western Colorado Desert underlies the northeastern corner. The approximate boundary between these two provinces is the Neogene Elsinore Fault Zone, the westernmost on-land strand of the San Andreas Fault System.

The Project is located near Lake Jennings, which is located about two miles east of Lakeside California and fills a portion of Quail Canyon. Quail Canyon is located in the center of the El Cajon quadrangle. This part of the Peninsular Range is underlain by Jurassic and Cretaceous plutonic rocks which contains screens of variably metamorphosed Mesozoic supracrustal rocks. [15]

Soil onsite is primarily comprised of Friant rocky fine sandy loam, 30 to 70 percent slopes. (See Custom Soil Resource Report in Appendix D.) Friant soils consist of shallow, well drained soils that formed in material weathered from mica schist, quartz schist and gneiss. Friant soils are on mountainous uplands and have slopes of 9 to 75 percent. These soils are used principally for grazing, wildlife, and watershed. Native vegetation is buckwheat, chaparral, and naturalized grasses and forbs. These soils have medium to very rapid runoff and have moderately rapid permeability.

A geotechnical report was prepared by Christian Wheeler Engineering for the Project. The report found artificial fill associated with previous grading operations at the site. As encountered in the subsurface exploration, the fill soils extend to a depth of about 8 feet below grade. The fill material consists of reddish-brown, damp, very dense, silty sand with rock fragments. This report can be found in Appendix D.

3.8.1.2 Faults and Seismicity

The Project Site is not located within an earthquake fault zone and no known faults cut through the local soil at the site. The nearest active fault is the Rose Canyon Fault Zone located approximately 18 miles southwest of the site. Other active fault zones in the region that could possibly affect the site include the Coronado Bank, Sand Diego Trough, and San Clemente Fault Zones to the west, the Palos Verdes and Newport Inglewood Fault Zones to the northwest, and the Elsinore, Earthquake Valley, San Jacinto, and San Andreas Fault Zones to the northeast.

3.8.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Liquefaction is restricted to certain geologic and hydrologic conditions, and areas with high groundwater levels and recently deposited silt and sand are especially susceptible. Within the San Diego County, areas of liquefiable soil can be found in alluvial river valleys/basins and floodplains. The Project is mapped in an area with low-risk potential for liquefaction.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The Project Site is dominated by Friant rocky fine sandy loam soil. There are no areas within San Diego County with recorded historic or current subsidence. Given the shallow depth of the groundwater table in the County, the risk of subsidence is understood to be low.

3.8.1.5 Dam and Levee Failure

San Vicente Dam and Reservoir are located approximately 4.35 miles northwest of the Project Site. The Project Site is inside of the inundation zone, in the instance of a failure at San Vicente Dam.

3.8.2 Regulatory Setting

3.8.2.1 Federal

There are no federal regulations regarding geology and soils applicable to the Project.

3.8.2.2 State

California Alquist-Priolo Earthquake Fault Zoning Act: The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972 and renamed in 1994) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The statute prohibits the location of most types of structures intended for human occupancy across the traces of active faults and regulates construction in the corridors along active faults.

California Building Standards Code: The CCR Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the International Building Code with necessary California amendments. The International Building Code is a widely-adopted model building code in the United States published by the International Code Council. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions.

3.8.2.3 Local

San Diego County General Plan: The San Diego General Plan contains several goals and policies relating to geology, soils, and seismic hazards; however, none are relevant to this Project's CEQA review.

3.8.3 Impact Assessment

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? and,

a-ii) Strong seismic ground shaking?

Less than Significant Impacts. Although the Project Site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code), nearby potentially active faults could generate ground shaking. The nearest active fault is the Rose Canyon Fault Zone located approximately 18 miles southwest of the site. The Project involves improvements to an existing pump station, WTP and lake and does not include the development of habitable or residential structures. Development of additional structures at the existing pump station would be limited to small buildings used to house equipment.

Preliminary Geologic Map of El Cajon Quadrangle. https://pubs.usgs.gov/of/2004/1361/ec1_pamphlet.pdf Accessed 25 November 2022.
San Diego County Hazard Mitigation Planning https://www.sandiegocounty.gov/oes/docs/DRAFT_COSD_Liquefaction1.pdf Accessed 26 November 2022

Furthermore, the development of all structures would be consistent with the requirements set forth in the California Building Standards Code, which sets procedures and limitations for design of structures based on seismic risk, and which would ensure that the design and construction of these structures are engineered to withstand the expected ground acceleration that could occur in the vicinity. Operation and maintenance staff at the existing pump station, WTP and lake will be unchanged from current site operations; therefore, implementation of the Project would not result in an increase of people onsite. Any impact would be less than significant.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. The Project Site is mapped as an area with low moderate liquefaction potential, according to the San Diego County Hazard Mitigation Plan.[17] However, as stated above in a-i and a-ii, the Project involves improvements to an existing pump station, WTP and lake and does not include the development of habitable or residential structures. Operation and maintenance staff at the existing pump station, WTP and lake would be unchanged from current site operations; therefore, implementation of the Project would not result in an increase of people onsite. Any impact would be less than significant.

a-iv) Landslides?

Less than Significant Impact. The Project involves improvements to a pump station, WTP and lake within the City of Lakeside. The Project is located in Relative Susceptibility Area 3-1 according to Landslide Hazards in the Southern Part of San Diego Metropolitan Area by Tan, 1995. Area 3 is considered to be generally susceptible to slope movement; subarea 3-1 classifications are considered at or near their stability limits due to steep slopes and can be expected to fail locally when adversely modified.[18] Based on the very competent nature of the rocks that underlies the site the potential for landslides at the Project is low. As stated above in Impact Assessments a-i-iii, the Project does not involve the development of habitable structures and would not result in an increase of people onsite. Given the nature of the Project and the low potential for a landslide event in the vicinity, any impact would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The Project involves improvements to a pump station, WTP and lake. Since the site is currently developed and comprised of man-modified materials on essentially level terrain, the potential for erosion is minimal. However, earthmoving activities associated with the Project would include excavation, grading, trenching, and infrastructure construction, which could potentially expose soils to erosion processes. The extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a SWPPP by a certified Qualified SWPPP Developer. Since the Project Site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the impact would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?; and,

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?
Less than Significant Impacts. The Project involves improvements to a pump station, WTP and lake. The site is currently developed and comprised of man-modified materials on essentially level terrain. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project does not propose significant alteration of the topography of the site, and it does not involve development of habitable structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property. Furthermore, the Project would be consistent with the California Building Standards Code. Any impacts would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
No Impact. Septic installation or alternative wastewater disposal systems are not proposed nor necessary for the project. There would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?
No Impact. A review of published geological maps covering the Project Site and surrounding area was conducted to determine the specific geologic units underlying the Project Site. Each geologic unit was subsequently assigned a paleontological resource sensitivity (Deméré and Walsh, 1993). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur within the Project Site or in the immediate surrounding area.

The Project Site is entirely underlain by Early Cretaceous-age (~145 to 100 million years old) metavolcanic rocks, which generally consist of screens of amphibolite-facies metavolcanic tuff, tuff-breccia, and andesitic, dacitic, and basaltic flow rocks, along with sparse metaquartzite, schist, and cobble metaconglomerate (Todd, 2004). Metavolcanic rocks do not preserve fossils due to their original extrusive volcanic origin under extremely high temperatures and later deformation in high temperature and/or high-pressure conditions. As a result, the Project Site is located in an area of no paleontological sensitivity. Construction-related earthwork activities (e.g., grading, trenching) will have no impacts to paleontological resources.

San Diego County Hazard Mitigation Planning https://www.sandiegocounty.gov/oes/docs/DRAFT_COSD_Liquefaction1.pdf Accessed 26 November 2022

3.9 Greenhouse Gas Emissions

Table 3-14. Greenhouse Gas Emissions Impacts

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

3.9.1 Environmental Setting

The Earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history (National Oceanic and Atmospheric Administration, 2010). Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs.

The County of San Diego developed a Climate Action Plan in 2018 with the purpose of reducing GHG emissions based on 2014 baseline levels. San Diego Counties 2014 baseline GHG emission level was then projected out to the 2020, 2030, 2040, and finally 2050 based on legislative reductions in Appendix A. In 2014, San Diego County generated approximately 1,456,060 $MTCO_2e$ of GHG emissions for that year. The report indicated that total yearly GHG reductions which primarily came from reductions related to transportation and electricity would be in the order of 6% by 2020, 12% by 2030, 11% in 2040, and 7% in 2050 when compared with the 2014 levels.

3.9.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which

is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

https://www.sandiegocounty.gov/content/sdc/pds/ceqa/Climate_Action_Plan_Public_Review.html.

3.9.1.2 Effects of Climate Change

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three- quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (California Energy Commission (CEC) 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

3.9.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report, **Appendix A**, was prepared in November 2018. The sections below detail the methodology of the report and its conclusions.

3.9.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. Emissions' modeling was assumed to occur over an approximate 450-day period and covering the site area of approximately 1.1 acres. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.9.2.2 Long-Term Operational Emissions

Since the Project involves improvements to an existing pump station, WTP and lake, long-term operational emissions associated with the Project will be insignificant in nature. Operational emissions were calculated using the online version of CalEEmod, Soft Release. Worker and vendor commute trips will be unchanged, as no additional long-term operational nor maintenance staff will be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions.

3.9.2.3 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,

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

The County of San Diego County Action Plan includes strategies and measures to reduce GHG emissions from the unincorporated county and County operations. The CAP necessitates changes to Goal COS-20 and Policy COS-20.1 of the 2011 County of San Diego General Plan Update (GPU) and mitigation adopted in the certified Final Program Environmental Impact Report (PEIR) for the 2011 GPU (Mitigation Measures CC-1.2, CC-1.7, and CC-1.8). As a result, an associated action of the project is a General Plan Amendment to the 2011 GPU, which includes revised mitigation measures and a revised Mitigation, Monitoring, and Reporting Program for the 2011 GPU PEIR. The project also includes a threshold of significance for GHG emissions and revised Guidelines for Determining Significance for Climate Change, as well as a CAP Consistency Review Checklist and a Report Format and Content Requirements for Climate Change document. All of these actions constitute the project analyzed in the Final Supplemental Environmental Impact Report (Final SEIR).

The County of San Diego Guidelines for Determining Significance

The County of San Diego's approach to determining significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant. The County of San Diego Guideline for Determining Significance are based on the Statewide AB 32 objectives and will be used to quantify potential impacts related to GHG emissions. For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy or annual emissions less than 2,500 metric tons per year (MT/yr) of CO_2e. For stationary source projects, such as those requiring a permit from a local air district to operate, the threshold is 10,000 MT(short ton) /yr of CO_2e.

South Coast Air Quality Management District

Beginning in April 2008, the South Coast Air Quality Management District (SCAQMD) convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of 10,000 MT CO_2e per year for industrial projects where the SCAQMD is the Lead Agency[1]. In September 2010, the Working Group proposed extending the 10,000 MT CO_2e per year screening threshold currently applicable to industrial projects where the SCAQMD is the Lead Agency to other lead agency industrial projects[2]. A project with emissions less than the applicable screening value would be considered to have less than significant GHG emissions.

[1] SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Thresholds. October 2008.

[2] SCAQMD *Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15* (slide presentation). Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-%28ghg%29-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2

3.9.3 Regulatory Setting

3.9.3.1 Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level.

3.9.3.2 State

Assembly Bill 1493

Assembly Bill (AB) 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the California Air Resources Board (CARB) to develop and adopt the nation's first GHG emission standards for automobiles.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 (Health and Safety Code Sections 38500, 38501, 38510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599 "et seq.,") requires that Statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable Statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce Statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the State achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

In October 2008, CARB published its Climate Change Proposed Scoping Plan, which is the State's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 million metric tons (MMT) of Carbon Dioxide Equivalent (CO_2e), or approximately 30 percent from the State's projected 2020 emissions level of 596 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 42 $MMTCO_2e$, or almost 10 percent, from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The largest proposed GHG reduction recommendations are from improving emissions standards for light-duty vehicles (estimated reductions of 31.7 $MMTCO_2e$), implementation of the Low Carbon Fuel Standard (15.0 $MMTCO_2e$) program, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 $MMTCO_2e$), and a renewable portfolio standard for electricity production (21.3 $MMTCO_2e$). The Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction

below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008.

A key component of the Scoping Plan is the Renewable Portfolio Standard, which is intended to increase the percentage of renewables in California's electricity mix to 33 percent by year 2020, resulting in a reduction of 21.3 $MMTCO_2e$. Sources of renewable energy include, but are not limited to, biomass, wind, solar, geothermal, hydroelectric, and anaerobic digestion. Increasing the use of renewables will decrease California's reliance on fossil fuels, thus reducing GHG emissions.

The Scoping Plan States that land use planning and urban growth decisions will play important roles in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, CARB is also developing an additional protocol for community emissions.) CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. The Scoping Plan States that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects approximately 5.0 $MMTCO_2e$ will be achieved associated with implementation of Senate Bill 375, which is discussed further below. The Climate Change Proposed Scoping Plan was approved by CARB on December 11, 2008.

The First Update of the Scoping Plan was approved by the CARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals. CARB's Key Action for the Waste Sector focused on eliminating organics from the landfill starting in 2016 and financing the in-State infrastructure development of composting and anaerobic digestion facilities. CARB's Key Action for Short-lived Climate Pollutants such as methane is to develop a comprehensive strategy by 2015 which will focus on methane generated at landfills from the disposal of organic wastes.

Senate Bill 97 - CEQA: Greenhouse Gas Emissions

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. Amendments to the CEQA guidelines took effect March 18, 2010. The revisions include a new section (Sec. 15064.4) that specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions. Section 15064.4 further States that a lead agency "should" consider several factors when assessing the significance of impacts from GHG emissions on the environment, including: the extent to which the project would increase or reduce GHG emissions; whether project emissions exceed an applicable threshold of significance; and the extent to which the project complies with "regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The guidelines also State that a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements of previously approved plan or mitigation program (Sec. 15064(h)(3)). However, the guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

This bill also protected projects until January 1, 2010, that were funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action. Thus, this "protection" is highly limited to a handful of projects and for a short time period (California Air Pollution Control Officers Association, 2008).

Senate Bill 1368

Senate Bill (SB) 1368 (codified at Public Utilities Code Chapter 3) is the companion bill of AB 32. SB 1368 required the California Public Utilities Commission (CPUC) to establish a greenhouse gas emissions performance standard for baseload generation from investor-owned utilities by February 1, 2007. The bill also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural-gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and the CEC.

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

Senate Bill 1078 (Public Utilities Code Sections 387, 390.1, 399.25 and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum 20 percent of their supply from renewable sources by 2017. This Senate Bill will affect Statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed State government agencies and retail sellers of electricity to take all appropriate actions to implement this target. The Proposed Project area would receive energy service from the investor-owned Southern California Edison.

Prior to the Executive Order, the CPUC and the CEC were responsible for implementing and overseeing the Renewables Portfolio Standard. The Executive Order shifted that responsibility to CARB, requiring it to adopt regulations by July 31, 2010. CARB is required by current law, AB 32 of 2006, to regulate sources of greenhouse gases to meet a State goal of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The CEC and CPUC are expected to serve in advisory roles to help CARB develop the regulations to administer the 33 percent by 2020 requirement. Additionally, the CEC and CPUC will continue their implementation and administration of the 20 percent requirement. The Executive Order also stipulates that CARB may delegate to the CPUC and CEC any policy development or program implementation responsibilities that would reduce duplication and improve consistency with other energy programs. CARB is also authorized to increase the target and accelerate and expand the time frame.

The general definition under the State Renewables Portfolio Standard for biomass is any organic material not derived from fossil fuels, including agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, sludge derived from organic matter, and wood and wood waste from timbering operations. Biomass feedstock from State and national forests is allowable under the definition.

Mandatory Reporting of Greenhouse Gas Emissions

Reporting of greenhouse gases by major sources is required by the California Global Warming Solutions Act (AB 32, 2006). Revisions to the existing CARB mandatory GHG reporting regulation were considered at the board hearing on December 16, 2010. The revised regulation was approved by the California Office of Administrative Law and became effective on January 1, 2012. The revised regulation affects industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

Cap-and-Trade Regulation

The cap-and-trade regulation is a key element in California's climate plan. It sets a Statewide limit on sources responsible for 85 percent of California's greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and apply to large electric power plants and large industrial plants. In 2015, they extended to fuel distributors (including distributors of heating and transportation fuels). At that stage, the program will encompass nearly 85 percent of the State's total greenhouse gas emissions.

GHG emissions addressed by the cap-and-trade regulation are subject to an industry-wide cap on overall GHG emissions. The cap-and-trade regulation sets a firm limit or cap on GHGs, which declines approximately 3 percent each year beginning in 2013. Any growth in emissions must be accounted for under the cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. The cap-and-trade regulation will help California achieve its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80% reduction from 1990 levels by 2050. As such, the CARB has determined that the cap-and-trade regulation meets the requirements of AB 32.

3.9.3.3 Local

San Diego County Guidelines for Determining Significance Climate Change

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects and consider feasible alternatives and mitigation measures to reduce significant adverse environmental effects. As part of this analysis, agencies must consider potential adverse effects that may result from a proposed project's greenhouse gas (GHG) emissions. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with the Legislature's directive in Public Resources Code Section 21083.05 (enacted as part of Senate Bill (SB) 97 [Chapter 185, Statutes 2007]). These amendments took effect in 2010.

GHG emissions have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to the significant cumulative impact of global climate change. Cumulative impacts are those that result from the combination of past, present, and probable future projects, producing related effects. The proper context for addressing GHG emissions is within an assessment of cumulative impacts because, although it is unlikely that a single project would contribute significantly to climate change, cumulative emissions from many projects could impact global GHG concentrations and the global climate system. This document is to be used to determine whether individual projects would have a considerable cumulative incremental contribution to the significant impact of global climate change.

The County's Climate Action Plan (CAP) is a long-term programmatic plan that identifies strategies and measures to meet the County's targets to reduce GHG emissions by 2020 and 2030, consistent with the State's legislative GHG reduction targets, and demonstrates progress towards the State's 2050 GHG reduction goal. The CAP has been prepared in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3) and 15183.5(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulative if it complies with the requirements of the CAP. The CAP, consistent with CEQA Guidelines Section 15183.5, includes the following components:

- The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

Chapter 5 of the CAP details how the CAP complies with each of these elements.

The CAP also updates and implements General Plan Goal COS-20 and Policy COS-20.1 and mitigation measures CC-1.2, CC-1.7, and CC-1.8 of the 2011 General Plan Update (GPU) Final Program Environmental Impact Report (PEIR). Mitigation Measures CC-1.2, CC-1.7, and CC-1.8, identified in the 2011 GPU PEIR, called for the preparation of a Climate Change Action Plan designed Guidelines for Determining Significance Page 2 of 5 Climate Change to reach specified GHG reduction targets from community and local government operations, modifications to the Guidelines for Determining Significance for Climate Change to provide guidance on the evaluation of GHG impacts considering current regulatory requirements and determine a project's consistency with the CAP, and adoption of a GHG Threshold of Significance. These Guidelines for Determining Significance for Climate Change (Guidelines) have been developed pursuant to the updated Mitigation Measures CC-1.7 and CC-1.8 of the 2011 GPU PEIR. The CAP document itself has been prepared to comply with the updated Mitigation Measure CC-1.2 of the 2011 GPU PEIR to mitigate the GHG impacts of the General Plan. The Guidelines were adopted by the Board of Supervisors (Board) by separate resolution concurrently with the County's CAP , consistent with CEQA Guidelines Section 15064.7. The County's CAP is also intended to be used for future project-specific GHG emissions analyses by being prepared consistent with the tiering and streamlining provisions of Section 15183.5 of the CEQA Guidelines. The Supplemental Environmental Impact Report (SEIR) for the CAP provides the appropriate level of environmental review to allow future projects to tier from and streamline their analysis of GHG emissions pursuant to CEQA Guidelines Section 15183.5(b)(2).

Threshold of Significance

County staff will use these Guidelines as part of the environmental review process to evaluate GHG emissions for individual discretionary projects. In accordance with the 2011 GPU PEIR Mitigation Measure CC-1.7 (as updated), the Guidelines incorporate the following "threshold of significance" that was separately adopted by the Board.

A proposed project would have a less than significant cumulatively considerable contribution to climate change impacts if it is found to be consistent with the County's Climate Action Plan; and would normally have a cumulatively considerable contribution to climate change impacts if it is found to be inconsistent with the County's Climate Action Plan.

This constitutes the threshold of significance adopted by the Board for general use as part of the County's environmental review process. In accordance with CEQA Guidelines Section 15064.7(b), the threshold of significance was developed through a public review process supported by substantial evidence, and was adopted by the Board by separate resolution concurrently with the County's CAP.

Consistency with the CAP is determined through the CAP Consistency Review Checklist (Checklist), which is provided as Appendix A to these Guidelines. The Checklist, in conjunction with the CAP, provides a streamlined CEQA review process for proposed discretionary development projects. The Checklist is the mechanism that is used to demonstrate consistency with the CAP. If a project does not comply with required actions in the Checklist, it would be determined to be inconsistent with the CAP. The process for determining consistency with the CAP is described below.

Climate Action Plan Consistency Review Checklist

The purpose of the Checklist is to implement GHG reduction measures from the CAP that apply to new development projects. The CAP presents the County's comprehensive strategy to reduce GHG emissions to meet its reduction targets. These reductions will be achieved through a combination of County initiatives and reduction actions for both existing and new development. Reduction actions that apply to existing and new development will be implemented through a combination of mandatory requirements and incentives. This Checklist specifically applies to proposed discretionary projects that require environmental review pursuant to CEQA. Therefore, the Checklist represents one implementation tool in the County's overall strategy to implement the CAP. Implementation of measures that do not apply to new development projects will occur through the implementation mechanisms identified in Chapter 5 of the CAP. Implementation of applicable reduction measures in new Guidelines for Determining Significance Page 3 of 5 Climate Change development projects will help the County achieve incremental reductions towards its targets, with additional reductions occurring through County initiatives and measures related to existing development that are implemented outside of the Checklist process.

The Checklist will be used during the development review process and will require reduction measures to be incorporated by individual projects. The Checklist follows a two-step process to determine if projects will have a significant cumulative impact under the County's adopted GHG threshold of significance.

Step 1 in the Checklist assesses a project's consistency with the growth projections and land use assumptions made in the CAP. Projections provide insight into the scale of reductions needed to meet reduction targets. Emissions for future years were estimated based on anticipated growth, as provided in the County's General Plan. If a project is consistent with the projections in the CAP, its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase

emissions beyond what is anticipated in the CAP or inhibit the County from reaching its reduction targets. Emissions from a project consistent with the General Plan have been accounted for in the CAP and the project's implementation of the applicable CAP reduction measures will contribute towards reducing County emissions. As a result, a project that is found to be consistent with the CAP, would result in less than significant GHG emissions and would not result in a cumulatively considerable contribution to a GHG impact. If a project is consistent with the existing General Plan land use designation(s), it can be determined to be consistent with the CAP projections and can move forward to Step 2 of the Checklist. However, some projects that are inconsistent with existing General Plan land use and zoning designations may be consistent with the CAP's projections. For example, if a project includes a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations, it would still be within the projections assumed in the CAP and can move forward to Step 2 of the Checklist because it would not increase GHG emissions beyond CAP projections. Estimated GHG emissions under the existing and proposed designations would need to be provided to support this conclusion. Emissions must be quantified using the guidance described in the County's Report Format and Content Requirements for Climate Change document provided under separate cover. If a land use and/or zoning designation amendment results in a more GHG-intensive project, the project is required to demonstrate consistency with applicable CAP measures and offset the increase in emissions in accordance with the recommended methodologies in Section 4 below.

Step 2 of the Checklist identifies CAP GHG reduction measures that would apply to discretionary projects and establishes clear questions that can be used to assess a project's consistency with CAP measures. The specific applicable requirements outlined in the Checklist, shall be required as a condition of project approval. The project must provide substantial evidence that demonstrates how the proposed project would implement each applicable Checklist requirement described in Appendix A to the satisfaction of the Director of Planning & Development Services (PDS). If a question in the Checklist is deemed not applicable (N/A) to a project, substantial evidence must be provided to the satisfaction of the Director of PDS.

Procedures for General Plan Amendments

In-process and future General Plan Amendment (GPA) projects that may intensify GHG emissions over existing designations are required to prepare a detailed quantitative GHG analysis. The processes for both new GPAs and in-process GPAs (i.e., project applications deemed complete prior to CAP Draft SEIR Notice of Preparation date of October 20, 2016) are identified below. Guidelines for Determining Significance Page 4 of 5 Climate Change General Plan Amendment projects that intensify GHG emissions beyond current designations are required to provide additional analysis beyond the Checklist. As specified in Mitigation Measure GHG-1 of the CAP's SEIR, the County shall require GPAs to reduce their emissions to ensure that CAP emission forecasts are not substantially altered such that attainment of GHG reduction targets could not be achieved. Project applicants for GPAs could accomplish this through two options:

- Option 1: GPA projects shall achieve no net increase in GHG emissions from additional density above the 2011 GPU. Applicants shall be required to quantify the GHG emissions from their projects that exceed the GHG emissions for the 2011 GPU densities or intensities forming the basis of the CAP forecasts. This increase in emissions shall be reduced by demonstrating compliance with relevant CAP measures as identified in the Checklist first. Any additional emission reductions needed shall then be achieved through onsite design features and mitigation measures, followed by offsite mitigation. Offsite mitigation, including the purchase of

carbon offset credits, would be allowed after all feasible onsite design features and mitigation measures have been incorporated.

- Option 2: GPA projects shall reduce all project GHG emissions to zero to achieve no net increase over baseline conditions (carbon neutrality). Project emissions shall be reduced to zero through onsite design features, mitigation measures, and offsite mitigation, including purchase of carbon offset credits. Applicants shall demonstrate compliance with relevant CAP measures as identified in the Checklist first. Any additional emission reductions needed shall then be achieved through onsite design features and mitigation measures, followed by offsite mitigation. Offsite mitigation, including purchase of carbon offset credits, would be allowed after all feasible onsite design features and mitigation measures have been incorporated.

Project specific mitigation measures, which would be in addition to all CAP Checklist items and all feasible on-site project design features, must include specific, enforceable actions to reduce project emissions, and an analysis is required to show the emission reductions achieved from each measure. Each mitigation measure should include references or a logical, fact-based explanation as to why a specific mitigation measure would achieve the stated reductions. Mitigation measures and/or design features must be supported with substantial evidence showing impacts have been reduced as described in Options 1 and 2 above. Many local, regional, and State agencies have produced lists of feasible mitigation measures and strategies that can be used to reduce GHG emissions. These lists can be consulted when developing feasible mitigation measures for projects within the County, including, but not limited to:

- Governor's Office of Planning and Research CEQA and Climate Change. 2008. Technical Advisory. CEQA AND CLIMATE CHANGE: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. See Attachment 3, "Examples of GHG Reduction Measures." Available: http://opr.ca.gov/docs/june08-ceqa.pdf.
- California Air Pollution Control Officers Association (CAPCOA). 2008 (January). CEQA & Climate Change. Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. See page 79, "Mitigation Strategies for GHG." Available: http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-WhitePaper.pdf.
- California Air Pollution Control Officers Association (CAPCOA). 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. A Resource for Local Government to Assess Emission Reduction from Greenhouse Gas Mitigation Measures. Available: http://www.capcoa.org/wpcontent/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- Attorney General of the State of California. 2008 (December) [revised January 2010]. The California Environmental Quality Act. Addressing Global Warming Impacts at the Local Agency Level. Available: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf.

Offsite mitigation that may include carbon offsets must comply with the requirements outlined in the CAP's SEIR Mitigation Measure GHG-1, which details sources of carbon offsets, standards for acceptable carbon offsets, and the County's preferred geographic hierarchy for implementation.

Contents of Climate Change Analysis Reports.

Guidance for project-specific GHG Technical Reports is outlined in the Report Format and Content Requirements for Climate Change document, provided under separate cover. The Report Format and

Content Requirements document provides guidance on the outline and content of GHG analyses for discretionary projects processed by PDS that cannot show compliance with the CAP Checklist.

Monitoring and Update Mechanisms

The County will prepare a CAP update every five years beginning in 2025. The CAP update will include updated baseline inventories, adjustments to reduction measures, as necessary, and any changes to land use projections, to achieve consistency with zoning and then-current General Plan land use designations and policies. Comprehensive updates to these Guidelines and associated Checklist will be coordinated with each CAP update and are subject to approval by the Board. Future updates to the CAP, Guidelines, and Checklist will comply with CEQA.

In addition to the updates to these Guidelines and Checklist that are coordinated with the comprehensive CAP updates every five years, the Guidelines and Checklist may also be administratively updated in the interim by the County to comply with amendments to State laws or court directives, or to remove measures that may become mandatory through future updates to State or local codes. Administrative revisions to the Guidelines and Checklist will be limited to changes that do not trigger a subsequent EIR or a supplement to the SEIR for the CAP pursuant to CEQA Guidelines Section 15162. Administrative revisions, as described above, will not require approval by the Board. All other changes to the Guidelines and Checklist require Board approval.

3.9.4 Impact Assessment

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
Less than Significant Impact.

Construction-Related Emissions

Estimated construction-related emissions are summarized in Table 3-15, below. As indicated, construction of the Project would generate maximum annual emissions of approximately 1,232 metric tons of carbon dioxide equivalent ($MTCO_2e$). Construction-related production of GHGs would be temporary, lasting 450 days.

Operational Emissions

Since the Project involves improvements to an existing pump station, WTP and lake, long-term operational emissions associated with the Project will be insignificant in nature. Estimated long-term operational emissions were calculated using the online version of CalEEmod, Soft Release, resulting in estimated maximum annual emissions of approximately 32.4 $MTCO_2e$, as displayed in Table 3-15. Worker and vendor commute trips would be unchanged, as no additional long-term operational nor maintenance staff would be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions. As demonstrated in Table 3-15, the emissions generated by the Project's operational phase would not exceed the SDAQMD adopted thresholds of significance which are based on the AB 32 objectives. Further, it would not exceed the SCAQMD significance threshold of 10,000 MT CO_2e for industrial projects. Therefore, Project related production of GHGs would be considered less than significant.

Table 3-15. Short-Term Construction-Generated GHG Emissions

Estimated Maximum Annual Project-Related GHG Emissions	
Phase	**Emissions (MT CO_2e) (1)**
Construction	1,232
Operation	32.4
*AB 32 Consistency Threshold for Land-Use Development Projects**	*2,500*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	No

1. Emissions were quantified using the online version of CalEEmod, Soft Release Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

* https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch3.1.3/2014-12-19_CountyofSD2013.pdf.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
Less than Significant Impact.

Adopted February 14, 2018, the County of San Diego Climate Action Plan (CAP) was developed with the purpose of reducing GHG emissions below 2014 levels.

The Project would implement all applicable measures stipulated by the San Diego County CAP and county plan to reduce emissions of GHGs during construction and operation. Furthermore, the Project complies with the SDAQMD GHG emissions thresholds for significance. For the aforementioned reasons, implementation of the Project is not anticipated to conflict with any applicable plan, policy or regulation for reducing the emissions of GHGs, nor will the Project have a significant impact on the environment. The impact would be considered less than significant.

On September 30, 2020, the County of San Diego (County) Board of Supervisors voted to set aside its approval of the County's 2018 Climate Action Plan (2018 CAP) and related actions because the Final Supplemental Environmental Impact Report (2018 CAP SEIR) was found to be out of compliance with the California Environmental Quality Act (CEQA). In response to this Board action, staff are preparing a Climate Action Plan Update (CAP Update) to revise the 2018 CAP and correct the items identified by the Court within the Final 2018 CAP SEIR that were not compliant.

The overall objective of the CAP Update is to reduce greenhouse gas (GHG) emissions generated from activities within the unincorporated county (community) and GHG emissions generated by County facilities and operational activities throughout the county, including facilities and operations located within incorporated cities (County operations), to meet or exceed GHG reduction goals under State laws.

The CAP Update may consider strategies and reduction measures, and supporting efforts organized under the same five categories as the 2018 CAP.

3.10 Hazards and Hazardous Materials

Table 3-16. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

3.10.1 Environmental Setting

Hazardous materials include a wide variety of substances commonly used in households and businesses. Used motor oil, paint, solvents, lawn care and gardening products, household cleaners, gasoline, and refrigerants are among the diverse range of substances classified as hazardous materials. Nearly all businesses and residences generate some amount of hazardous waste; certain businesses and industries generate larger amounts of such substances, including gas stations, automotive service and repair shops, printers, dry cleaners, and photo processors. Hospitals, clinics, and laboratories generate medical waste, much of which is also potentially hazardous. Wastewater treatment processes generally involve a variety of hazardous chemicals and biological materials contained within the effluents and reagents

used in water processing or generated during treatment. The Uniform Fire Code is typically used as the design basis for hazardous gas abatement systems.

3.10.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on October 18, 2022, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project Site or immediate surrounding vicinity.

3.10.1.2 Airports

The Agua Caliente Airport is located approximately 4.5 miles west and Marine Corps Air Station Miramar is located approximately 13.5 miles to the northwest of the Project.

3.10.1.3 Emergency Response Plan

During disasters or large-scale incidents, the San Diego County Office of Emergency Services coordinates the overall response through the Emergency Operations Center (EOC). When activated, the EOC provides a central location for responding and supporting agencies to collaborate response and recovery efforts in order to provide information and deploy resources effectively and efficiently.

3.10.1.4 Sensitive Receptors

The Project is located approximately one mile north-northeast of Lakeview Elementary School.

3.10.2 Regulatory Setting

3.10.2.1 Federal

Hazardous Materials – United States Environmental Protection Agency: The United States Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of Federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. EPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to States and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Toxic Substances Control Act/Resource Conservation and Recovery Act/ Hazardous and Solid Waste Act: The Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA)

established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. Resource Conservation and Recovery Act (RCRA) was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Clean Water Act (CWA)/SPCC Rule: The Clean Water Act (CWA) (33 U.S.C. Section 1251, *et seq*., formerly the Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the Clean Water Act, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112, which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "navigable waters" of the United States. Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include Title 40, CFR, Chapter 1, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40, CFR, Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the Water Pollution Control Act. Title 40, CFR, Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40, CFR, Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

3.10.2.2 State

California Environmental Protection Agency (CalEPA): CalEPA was created in 1991 by Governor's Executive Order. California Air Resources Board (CARB), the Department of Pesticide Regulation, the Department of Resources Recycling and Recovery, the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment and the State Water Resources Control Board (SWRCB) were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality under Title 22 of the California Code of Regulations (CCR).

Department of Toxic Substances Control (DTSC): DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, clean-up of existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. GC Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, SWRCB Division of Drinking Water lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Unified Program: The Unified Program (CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100-15620) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs.

- Hazardous Waste Generator program and Hazardous Waste On-site Treatment activities;
- Aboveground Storage Tank program Spill Prevention Control and Countermeasure Plan requirements;
- Underground Storage Tank program;
- Hazardous Materials Release Response Plans and Inventory program;
- California Accidental Release Prevention program;
- Hazardous Materials Management Plans and Hazardous Materials Inventory Statement requirements.

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local CUPA is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements in the county. Most CUPAs have been established as a function of a local environmental health or fire department.

Hazardous Waste Management Program: The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement, and Unified Program activities in accordance with HHSC Section 25135, et seq. The main focus of HWMP is to ensure the safe storage, treatment, transportation, and disposal of hazardous wastes.

State Water Resources Control Board (SWRCB): The SWRCB was created by the California legislature in 1967. The mission of SWRCB is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables SWRCB to provide comprehensive protection for California's waters.

California Department of Industrial Relations: Division of Occupational Safety and Health (Cal/OSHA): In California, every employer has a legal obligation to provide and maintain a safe and healthful workplace for employees, according to the California Occupational Safety and Health Act of 1973 (per Title 8 of the CCR). The Division of Occupational Safety and Health (Cal/OSHA) program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. Cal/OSHA regulations are administered through Title 8 of the CCR. The regulations require all manufacturers or importers to assess the hazards of substances that they produce or import and all employers to provide information to their employees about the hazardous substances to which they may be exposed.

3.10.2.3 Local

San Diego County General Plan: The General Plan sets forth the following policies regarding hazards and hazardous materials and which have potential relevance to the Project's CEQA review:

Goal S-13: Controlled Hazardous Material Exposure. Limited human and environmental exposure to hazardous materials that pose a threat to human lives or environmental resources.

California Environmental Protection Agency. http://www.calepa.ca.gov Accessed 22 November 2022.
California Environmental Protection Agency. http://www.calepa.ca.gov/cupa/ Accessed 22 November 2022

Policy S-13.1: Land Use Location. Require that land uses involving the storage, transfer, or processing of hazardous materials be located and designed to minimize risk and comply with all applicable hazardous materials regulations.

Policy S-13.2: Industrial Use Restrictions. Restrict industrial uses that store, process, or transport significant amounts of hazardous material to areas designated as High Impact Industrial.

Policy S-13.3: Hazards-Sensitive Uses. Require that land uses using hazardous materials be located and designed to ensure sensitive uses, such as schools, hospitals, daycare centers, and residential neighborhoods, are protected. Similarly, avoid locating sensitive uses near established hazardous materials users or High Impact Industrial areas where incompatibilities would result.

Policy S-13.4: Contaminated Lands. Require areas of known or suspected contamination to be assessed prior to reuse. The reuse shall be in a manner that is compatible with the nature of the contamination and subsequent remediation efforts.

Policy S-13.5: Development Adjacent to Agricultural Operations. Require development adjacent to existing agricultural operations in Semi-Rural and Rural Lands to adequately buffer agricultural areas and ensure compliance with relevant safety codes where pesticides or other hazardous materials are used.

3.10.3 Impact Assessment

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? and,

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact with Mitigation Incorporated (Responses to a & b). The Project involves improvements to the existing pump station, WTP and lake including the demolition of existing structures. Materials from these structures would be disposed of off-site at an approved disposal or recycling facility.

Construction of the Project would also involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents.

The contractor would implement a SWPPP and would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State and county regulations. The operational phase of the Project would continue the use, transport, and disposal of potentially hazardous materials associated with the wastewater treatment process. The Project does not propose an increase in the amount of hazardous materials transported, stored, used or disposed of onsite and implementation of the Project would not result in an increased risk of accidental release.

Implementation of the mitigation measures HAZ-1a through HAZ-1c as outlined below for the handling and disposal of hazardous materials would reduce any potential impacts to less than significant in nature.

c) **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**
No Impact. There are no existing or proposed schools located within 0.25 mile of the Project Site, which is confined to an existing Pump Station, WTP and Lake. There would be no impact.

d) **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**
No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on October 18, 2022, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project Site or immediate surrounding vicinity. There would be no impact.

e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**
Less than Significant Impact. The Project Site is not located within an Airport Land Use Plan. The nearest airport is the Agua Caliente Airport located approximately 4.5 miles west of the Project. The Project is more than two miles away from all other public and public use airports. Therefore, impacts would be less than significant.

f) **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**
No Impacts. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; therefore, the Project would not interfere with implementation of an emergency response plan or evacuation plan.

g) **Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**
Less Than Significant with Mitigation Incorporated. The proposed project is located in a CAL FIRE designated Very High Fire Hazard Severity Zone and mitigation measure Haz-2/W-1 would be implemented to reduce potential wildland fire impacts to a less-than-significant level through avoiding construction in areas of dense foliage during dry conditions, as feasible, and/or incorporating brush fire prevention and management practices.

3.10.3.1 Mitigation

Implementation of the following mitigation measures to reduce impacts from hazardous materials:

HAZ-1a (Hazard Communication Training - Lead). Upon commencing work operations involving disturbance of lead, the Contractor engaged in the work shall conduct an "Initial Exposure Assessment" for each planned "trigger task" in accordance with Cal/OSHA regulations to determine potential lead exposures to workers. The Contractor must assume workers would be exposed to airborne levels above the Permissible Exposure Limit and must provide workers with Hazard Communication Training, and personal protective equipment, including High Efficiency Particulate Air (HEPA) equipped respirators. A hand-washing facility must be present at the worksite.

HAZ-1b (Disposal – Lead Containing Paint). Prior to disposal of lead-containing paint or elements which include lead-containing paint, the State of California requires that representative sample(s) of the waste stream waste (along with the substrate where bonded) be submitted to an accredited laboratory and that a Total Threshold Limit Concentration (TTLC) test be performed to determine the total lead content.

HAZ-1c (Toxicity Characteristic Leaching Procedure). Dependent upon the result, a SW846 (STLC) may be required to determine the amount of leachable lead. These tests would determine transportation and disposal requirements and may greatly impact the ultimate cost of the work. Due to potential delays associated with conducting the analysis of the waste, it is recommended that the waste characterization be initiated prior to soliciting bids for the work.

HAZ-2/W-1 (Fire Safety Plan). Fire Safety Plan. To minimize the risk of losses resulting from wildfire, the following measures shall be implemented during project construction for the project:

1. Construction within areas of dense foliage during dry conditions will be avoided, when feasible.

2. In cases where avoidance is not feasible, brush fire prevention and management practices will be incorporated in a Fire Prevention Plan by the construction contractor. Specifics of the brush management program will be incorporated in this plan.

3.11 Hydrology and Water Quality

Table 3-17. Hydrology and Water Quality Impacts

Hydrology and Water Quality				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☒	☐	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	☐	☒	☐	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☒	☐	☐
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

3.11.1 Environmental Setting

According to the USGS classification system, the Project is located within the San Diego watershed; Hydrologic Unit Code: 18070304.

The Project lies to the east of the San Diego River Valley Groundwater Basin of the South Coast Hydrologic Region.

USGS Watershed Maps. https://water.usgs.gov/maps.html Accessed 18 October 2022.
DWR Bulletin 118. BBAT. https://gis.water.ca.gov/app/bbat/ Accessed 18 October 2022.

3.11.2 Regulatory Setting

3.11.2.1 Federal

Clean Water Act (CWA): The CWA is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires States to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the NPDES permit process was established to regulate these discharges.

Federal Emergency Management Agency (FEMA) Flood Zones: The National Flood Insurance Act (1968) makes available federally-subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (un-shaded).

3.11.2.2 State

State Water Resources Control Board: The SWRCB has jurisdiction over water quality issues in California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the Water Code (WC)), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter- Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project Site is located within the San Diego Regional Water Quality Control Board District (SDRWQCB). The SDRWQCB administers the NPDES storm water-permitting program in the San Diego region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). For projects proposing ground disturbance of one acre or greater, the SWRCB requires a SWPPP as a requirement of the NPDES to regulate water quality associated with construction or industrial activities. Additionally, SDRWQCB is responsible for issuing Waste Discharge Requirements Orders under WC Section 13260, Article 4, Waste Discharge Requirements.

Recycled Water Policy: The Water Recycling Act of 1991 (WC Section 1357,5 *et seq.*) established a Statewide goal to recycle a total of 700,000 acre-feet of water per year (AFY) by the year 2000 and 1,000,000 AFY by the year 2010. In February 2009, the SWRCB adopted its Recycled Water Policy (SWRCB Resolution No. 2009-0011), the purpose of which is to increase the beneficial use of recycled water from municipal wastewater sources in a manner that fully implements State and Federal water quality laws. The policy directs the State to rely less on variable annual precipitation and more on sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use

of stormwater. As a part of the new recycled water policy, the SWRCB adopted the following four goals for California:

1. Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030.
2. Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030
3. Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
4. Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

In the new policy, the SWRCB also discussed several practical impacts of the greater use of recycled water in the State. Those impacts include the following:

- Groundwater salt and nutrient control: The SWRCB imposed a requirement that consistent salt and nutrient management plans be prepared for each basin and subbasin in California. Such plans must include a significant stormwater use and recharge component.
- Landscape irrigation: The SWRCB discussed issues involving the permitting of landscape irrigation projects that use recycled water, including the control of incidental runoff of recycled water.
- Groundwater recharge: The SWRCB addressed site-specific approvals of groundwater recharge projects using recycled water, emphasizing that such projects must not lower the water quality within a groundwater basin.
- Chemicals of emerging concern: The SWRCB further addressed chemicals of emerging concern (CEC), knowledge of which is currently "incomplete." An advisory panel will advise the Water Board regarding actions involving CECs, as they relate to the use of recycled water.

The wide-ranging ramifications of using recycled water, coupled with the aggressive goals established by the SWRCB for such future use in California, demonstrates that the new Recycled Water Policy will have a significant impact on land use activities within the State for many years to come.

Government Code 65302 (d): A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, river and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any County-wide water agency and with all district and city agencies which have developed, served, controlled or conserved water for any purpose for the County or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or County. The conservation element may also cover:

1. The reclamation of land and waters.
2. Prevention and control of the pollution of streams and other waters.
3. Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
4. Prevention, control, and correction of the erosion of soils, beaches, and shores.

5. Protection of watersheds.
6. The location, quantity and quality of the rock, sand and gravel resources.
7. Flood control.

Sustainable Groundwater Management Act: On September 16, 2014, Governor Edmund G. Brown, Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the State's water needs. The three bills, SB 1168 (Pavley), SB 1319 (Pavley), and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act (SGMA). SGMA comprehensively reforms groundwater management in California. The intent of the Act is to place management at the local level, although the State may intervene to manage basins when local agencies fail to take appropriate responsibility. The Act provides authority for local agency management of groundwater and requires creation of groundwater sustainability agencies and implementation of plans to achieve groundwater sustainability within basins of high and medium-priority. The Act took effect on January 1, 2015, and will be implemented over the course of next several years and decades.

3.11.2.3 Local

2011 San Diego County General Plan: The 2011 San Diego County General Plan contains several goals and policies regarding hydrology and water quality which have potential relevance to the Project's CEQA review:

Goal LU-13: Adequate Water Quality, Supply, and Protection. A balanced and regionally integrated water management approach to ensure the long-term viability of San Diego County's water quality and supply.

Policy LU-13.1: Adequacy of Water Supply. Coordinate water infrastructure planning with land use planning to maintain an acceptable availability of a high-quality sustainable water supply. Ensure that new development includes both indoor and outdoor water conservation measures to reduce demand.

Policy LU-13.2: Commitment of Water Supply. Require new development to identify adequate water resources, in accordance with State law, to support the development prior to approval.

Goal LU-14: Adequate Wastewater Facilities. Adequate wastewater disposal that addresses potential hazards to human health and the environment.

Policy LU-14.1: Wastewater Facility Plans. Coordinate with wastewater agencies and districts during the preparation or update of wastewater facility master plans and/or capital improvement plans to provide adequate capacity and assure consistency with the County's land use plans.

Policy LU-14.2: Wastewater Disposal. Require that development provide for the adequate disposal of wastewater concurrent with the development and that the infrastructure is designed and sized appropriately to meet reasonably expected demands.

Policy LU-14.3: Wastewater Treatment Facilities. Require wastewater treatment facilities serving more than one private property owner to be operated and maintained by a public agency. Coordinate the planning and design of such facilities with the appropriate agency to be consistent with applicable sewer master plans.

Policy LU-14.4: Sewer Facilities. Prohibit sewer facilities that would induce unplanned growth. Require sewer systems to be planned, developed, and sized to serve the land use pattern and densities depicted

on the Land Use Map. Sewer systems and services shall not be extended beyond either Village boundaries or extant Urban Limit Lines, whichever is more restrictive, except:

- When necessary for public health, safety, or welfare;
- When within existing sewer district boundaries;
- When necessary for a conservation subdivision adjacent to existing sewer facilities; or
- Where specifically allowed in the community plan.

Policy LU-14.5: Alternate Sewage Disposal Systems. Support the use of alternative on-site sewage disposal systems when conventional systems are not feasible and in conformance with State guidelines and regulations.

Goal COS-4: Water Management. A balanced and regionally integrated water management approach to achieve the long-term viability of the County's water quality and supply.

Policy COS-4.1: Water Conservation. Require development to reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.

Policy COS-4.2: Drought-Efficient Landscaping. Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.

Policy COS-4.3: Stormwater Filtration. Maximize stormwater filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces. This policy shall not apply in areas with high groundwater, where raising the water table could cause septic system failures, moisture damage to building slabs, and/or other problems.

Policy COS-4.4: Groundwater Contamination. Require land uses with a high potential to contaminate groundwater to take appropriate measures to protect water supply sources.

Policy COS-4.5: Recycled Water. Promote the use of recycled water and gray water systems where feasible.

Goal COS-5: Protection and Maintenance of Water Resources. Protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources.

Policy COS-5.1: Impact to Floodways and Floodplains. Restrict development in floodways and floodplains in accordance with policies in the Flood Hazards section of the Safety Element.

Policy COS-5.2: Impervious Surfaces. Require development to minimize the use of directly connected impervious surfaces and to retain stormwater run-off caused from the development footprint at or near the site of generation.

Policy COS-5.3: Downslope Protection. Require development to be appropriately sited and to incorporate measures to retain natural flow regimes, thereby protecting downslope areas from erosion, capturing runoff to adequately allow for filtration and/or infiltration, and protecting downstream biological resources.

Policy COS-5.4: Invasive Species. Encourage the removal of invasive species to restore natural drainage systems, habitats, and natural hydrologic regimes of watercourses.

Policy COS-5.5: Impacts of Development to Water Quality. Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources.

Goal EJ-4: Protect and Restore Surface Water. Protect and restore surface water bodies in the unincorporated area, including those within EJ Communities, from future contamination.

Policy EJ-4.1: Remediation (all unincorporated areas). Support and expand policies and programs and coordinate with local and regional agencies to continue remediation and treatment efforts for contaminated surface water, groundwater, and soils in affected EJ Communities.

Policy EJ-4.2: Water Restoration Funding Sources (all unincorporated areas). Prioritize applying for state and federal funding sources to restore contaminated water bodies.

Policy EJ-4.3: Green Infrastructure Standards (all unincorporated areas). Develop green infrastructure standards that rely on natural processes for stormwater drainage, groundwater recharge, and flood management. Explore feasibility of expanding green infrastructure projects on public, underutilized land.

Policy EJ-4.4: Water Quality Incentives (all unincorporated areas). Incentivize water quality improvement programs and green infrastructure implementation in EJ Communities and other unincorporated communities.

3.11.3 Impact Assessment

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
Less than Significant Impact with Mitigation Incorporated. The following discussion describes potential water quality impacts associated with construction and operation of the project.

Construction

Potential water quality impacts related to project construction include erosion/ sedimentation, the use and storage of construction-related hazardous materials (e.g., fuels, etc.), generation of debris from demolition activities, and disposal of extracted groundwater (i.e., construction-related dewatering, if required), as described below.

Erosion/Sedimentation

Construction of the Project could result in erosion/sedimentation from activities such as clearing and grading, excavation, and stockpiling of construction-related soils and materials. Sediment that is washed off site into surface waters can smother aquatic organisms, alter the substrate and habitat, and alter the drainage course. Additionally, increased turbidity associated with erosion and sedimentation can degrade water quality by transporting pollutants that adhere to sediment particles, such as hydrocarbons. These potential impacts would be addressed through conformance with District requirements, as well as requirements under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

The District requires contractors to comply with specific storm water pollution prevention requirements for all projects involving earthwork, trenching, clearing, and grubbing operations. These requirements involve implementation of appropriate dry-season and rainy-season BMPs; routine evaluation, maintenance, and documentation of the effectiveness of implemented BMPs; and development of a "weather triggered" action plan and standby materials to deploy additional BMPs within 48 hours of a predicted storm event.

Additionally, for projects with soil disturbances of one acre or more, implementation of one or more authorized SWPPPs for proposed project construction would be required. Minimum BMPs would be determined during the NPDES/SWPPP process based on regulatory criteria and site characteristics (soils, slopes, etc.), and they would likely include standard industry measures and guidelines from the NPDES Construction General Permit. Based on the implementation of the required BMPs and/or other appropriate erosion and sediment control BMPs as part of (and in conformance with) the project SWPPP and related regulatory requirements, associated potential erosion/sedimentation impacts from project development would be less than significant.

Construction-related Hazardous Materials

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during project construction could potentially result in significant impacts if the materials reach downstream receiving waters, particularly materials such as petroleum compounds that can be toxic to aquatic species in low concentrations. The District's minimum requirements for storm water pollution prevention and any required SWPPPs under NPDES guidelines would prescribe detailed measures to avoid or mitigate potential impacts related to the use and potential discharge of construction-related hazardous materials. While specific BMPs would be determined on a project- specific basis, they would likely include standard measures listed in the Construction General Permit. Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the project SWPPPs and related regulatory requirements, potential impacts from construction- related hazardous materials under the proposed Project, would be less than significant.

Disposal of Extracted Groundwater (Construction Related Dewatering)

While no groundwater extraction is proposed, construction dewatering could potentially be required during construction operations (e.g., excavation within locally perched groundwater aquifers). Disposal of groundwater extracted during construction activities into local drainages and/or storm drain facilities could potentially generate significant water quality impacts through erosion/sedimentation, or the possible occurrence of pollutants in local aquifers (e.g., total dissolved solids). Project construction would require conformance with NPDES Groundwater Permit criteria prior to disposal of construction-related groundwater into local drainages and/or storm drain facilities. While specific BMPs to address potential water quality concerns from disposal of construction dewatering into local drainages and/or storm drain facilities would be determined based on site-specific parameters, they would likely include erosion/sedimentation controls (as outlined above), as well as the following types of standard measures from the Groundwater Permit:

1. Submittal of appropriate application materials and fees;
2. Implementation of pertinent (depending on site-specific conditions) monitoring/testing, disposal alternative, and treatment programs;

3. Provision of applicable notification to the associated local agency prior to discharging to a municipal storm drain system;
4. Conformance with appropriate effluent standards (as outlined in the permit); and
5. Submittal of applicable documentation

(e.g., monitoring reports). Extracted groundwater could also be discharged to the sanitary sewer system or to land areas for dust control or soil compaction purposes, which would not result in discharges entering local drainages. Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the NPDES Groundwater Permit, and additional options for extracted groundwater disposal that would prevent discharges from entering waterways, potential impacts from construction-related dewatering under the proposed project would be less than significant.

Groundwater Quality

The Project does not include structures or activities that could directly affect groundwater quality, such as underground fuel tanks or septic systems. Potential impacts to groundwater quality related to the proposed project would be limited to percolation of surface water. As described above, construction of the proposed Project would be required to comply with the District's minimum storm water pollution prevention requirements as well as all applicable construction storm water permits, thereby reducing impacts to groundwater quality related to construction activities to a less than significant level.

Demolition-related Debris Generation

Demolition of a small number of existing facilities would be necessary for the proposed Chet Harritt Pump Station improvements and LJAS compressor station. Such activities could generate small amounts of construction debris, potentially including concrete, asphalt, metal, paint, insulation, fabric, and wood. The introduction of demolition-related particulates or other pollutants into local drainages or storm drain systems could potentially result in downstream water quality impacts. Project construction would be subject to a number of regulatory controls related to demolition, including NPDES/SWPPP requirements as previously described. While specific BMPs would be determined on a project-specific basis during the regulatory process, they would likely include the types of standard measures derived from the Construction General Permit. Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the District's minimum requirements, project-specific SWPPPs and related regulatory requirements, potential impacts from construction-related debris generation under the proposed Project would be less than significant.

Operation/Maintenance Activities

The Chet Harritt Pump Station, and compressor building, could generate pollutants in association with activities such as on-site fuel and lubricant storage, vehicular/employee access for maintenance and related activities, and the implementation and maintenance of landscaped areas. While such potential pollutant generation would typically be addressed through standard design measures and BMPs, specific design details of related facilities have not been identified; and associated effects to long-term water quality cannot be determined. As a result, potential impacts are unknown and could result in significant long-term water quality impacts. Additionally, Project-related increases in impervious surfaces could result in increased storm water runoff that could potentially carry pollutants into nearby waterways. Measures stated below in 3.11.3.1 would reduce potential impacts related to water quality to a less-than-significant level.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. There is no anticipated increase in water demand resulting from implementation of the Project and the site is not currently being used for aquifer recharge. The Project would not involve withdrawals from an aquifer or groundwater table and would not interfere with groundwater recharge. There would be no impact.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

c-i) result in substantial erosion or siltation on- or off-site?

c-ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?

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

Less than significant impacts with mitigation incorporated. The Project involves improvements to existing developed sites at the Chet Harritt Pump Station. There are no streams or rivers onsite and the Project does not propose significant alteration of the topography of the site or a substantial increase in the area of impervious surfaces. Furthermore, construction of the Project would require implementation of a Construction General Permit and a SWPPP which would include various measures to minimize erosion, siltation, stormwater runoff, and polluted runoff. Any impacts would be less than significant with mitigation measures incorporated.

Runoff Generation

The proposed project is generally not expected to substantially increase the rate or amount of surface runoff within or from proposed Project Site. This conclusion is based on the nature of proposed facilities (e.g., improvements to existing facilities, underground pipelines), and the fact that proposed new above-ground project components would generally not result in substantial areas of new impervious surfaces, such as pavement and large structures. Accordingly, associated increases in runoff rates and amounts would be minor, and related potential impacts associated with erosion and flooding are expected to be less than significant. While overall increases in runoff rates and amounts are not anticipated to be substantial, associated impacts are unknown and could potentially result in significant impacts related to runoff generation, drainage system capacity (and related localized flooding), and hydromodification. Hyd-e would address impacts associated with proposed facilities that would increase impervious surfaces at the Chet Harritt Pump Station and LJAS Compressor Building. Implementation of mitigation measure Hyd-e would reduce potential impacts to a less-than-significant level.

c-iv) impede or redirect flood flows?

No Impact. According to FEMA National Flood Insurance Program Flood Insurance Rate Maps Panel 06007C980E, the Project is not located within a 100-year flood zone. Therefore, there would be no impact.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. The Project Site's distance from the Pacific Ocean and the intervening topography precludes occurrence of a tsunami. As mentioned above in Impact Assessment I, no structures housing people are associated with the Project and operational staff would be unchanged from existing conditions. Therefore, any impacts would be less than significant.

The Project is located within the inundation zone of Lake Jennings and would likely be flooded if Chet Harritt Dam were to experience failure. However, the Project involves improvements to an existing infrastructure to which the flooding risks are an aspect of the baseline conditions. The proposed Project is on and below Lake Jennings and has the potential to be at risk from a seiche event. The Project does not propose the development of housing or habitable structures, that would result in increased threat to staff onsite. Construction staff associated with the Project would occupy the site on a short-term and temporary basis. Upon implementation, personnel onsite would be unchanged from existing conditions; therefore, any impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact with Mitigation Incorporated. As noted in Impact Assessment b) above the Project would not involve withdrawals from an aquifer or groundwater table and would not interfere with groundwater recharge and therefore could not be in conflict with sustainable groundwater management plans. Any potential impacts to water quality have been discussed above in Impact Assessment a) and were determined to be less than significant with Mitigation Measures HYD-1a-1e incorporated.

3.11.3.1 Mitigation

The applicant will implement the following measures to prevent sedimentation and degradation of downstream waters.

HYD-1a (Conduct Site-Specific Water Quality Investigation). A site-specific water quality investigation will be completed prior to approval of final Project design. All applicable results and recommendations from this investigation will be incorporated into the final Project design documents to address identified potential long-term water quality issues related to conditions such as: anticipated and potential pollutants to be used, stored or generated on-site; the location and nature (e.g., impaired status) of on-site and downstream receiving waters; and Project design features to avoid/address potential pollutant discharges. The final Project design documents will also encompass standard design practices from sources including NPDES criteria and other applicable regulatory standards (with all related requirements to be included in engineering/design drawings and construction contract specifications). A summary of the types of BMPs typically associated with identified potential water quality concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The BMPs identified/recommended as part of the described site-specific water quality investigation will take priority over the more general types of standard regulatory/industry measures listed below:

- Low Impact Development (LID)/Site Design BMPs: LID/site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential, and

pollutant generation to the maximum extent practicable by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source through efforts such as: (1) minimizing developed/ disturbed areas to the maximum extent feasible; (2) utilizing natural and/or unlined drainage features in on-site storm water systems; (3) disconnecting impervious surfaces to slow concentration times, and directing flows from impervious surfaces into landscaped or vegetated areas; and (4) using pervious surfaces in developed areas to the maximum extent feasible.

(2011) Source Control BMPs: Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages by reducing on- site pollutant generation and off-site pollutant transport through measures such as: installing “no dumping” stencils/tiles and/or signs with prohibitive language at applicable locations such as drainages and storm drain inlets to discourage illegal dumping; (2) designing trash storage areas to reduce litter/pollutant discharge through methods such as paving with impervious surfaces, installing screens or walls to prevent trash dispersal, and providing attached lids and/or roofs for trash containers; (3) designing site landscaping to maximize the retention of native vegetation and use of appropriate native, pest-resistant, and/or drought-tolerant varieties to reduce irrigation and pesticide application requirements; and(4) providing secondary containment (e.g., enclosed structures, walls, or berms) for applicable areas such as trash or hazardous material use/storage.

- Pollutant Control BMPs: Pollutant control BMPs are designed to remove pollutants from runoff to the maximum extent practicable through means such as filtering, treatment, or infiltration. Pollutant control BMPs are required to address applicable pollutants, and may include efforts such as: (1) providing water quality treatment and related facilities such as sediment basins, vegetated swales, infiltration basins, filtration devices, and velocity dissipators to treat appropriate runoff flows and reduce volumes prior to off-site discharge (per applicable regulatory requirements);(2) creating a construction spill contingency plan in accordance with DEH regulations and retaining a copy of the plan on- site by the construction manager; and conducting regular inspection, maintenance, and as-needed repairs of pertinent facilities and structures.

HYD-1b (Erosion Control Measures). The applicant shall define the limits of any construction within the APE. Wattles or other appropriate erosion controls shall be placed between ground-disturbing activities and areas where sedimentation could flow out of the APE.

HYD-1c. (Storm Water Pollution Prevention Plan). The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.

HYD-1d. (Use of Best Management Practices). Best Management Practices (BMPs) shall be implemented as appropriate. BMP’s may include measures in a and b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not-limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

HYD-1e. (Conduct Site-Specific Hydrologic Investigation). A site-specific investigation shall be conducted for the Project to determine the site-specific hydrological conditions, related potential impacts, and requirements. All applicable results and recommendations from this investigation shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to: drainage alteration, runoff rates/amounts, storm water management and hydromodification, and flood hazards. The final Project design documents shall also encompass applicable standard design and construction practices from sources including NPDES (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigation will take priority over the more general types of standard regulatory/industry measures listed below.

- Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible.
- Runoff Rates/Amounts, Storm Water Management and Hydromodification: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts for design storm events, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable.
- Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/ containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and (4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA, as applicable.

3.12 Land Use and Planning

Table 3-18. Land Use and Planning Impacts

Land Use and Planning				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.12.1 Environmental Setting

The Project's setting is at the existing Chet Harritt Pump Station, R.M Levy Water Treatment Plant, Chet Harritt Dam and Lake Jennings, located in unincorporated Lakeside, CA. The General Plan land use designations for the sites are Public/Semi-Public Facilities and Public Agency. The sites are zoned RR-Residential, A70 Agricultural and S80 Special Purpose.

3.12.2 Regulatory Setting

3.12.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with land use and planning that are applicable to the Project.

3.12.2.2 State

There are no State regulations, plans, programs, and guidelines associated with land use and planning that are applicable to the Project.

3.12.2.3 Local

2011 San Diego County General Plan: The 2011 San Diego County General Plan contains several goals and policies relating to land use and planning; however, none are relevant to this Project's CEQA review.

3.12.3 Impact Assessment

a) Would the project physically divide an established community? and,

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impacts (Response to a & b). The existing WTP and Lake Jennings has provided municipal water treatment and drinking water services to San Diego County since its establishment. The Project does not involve the development of habitable structures or the conversion of land use. Surrounding lands consist primarily of suburban residential, commercial and public utility facilities. The Project would not physically divide any established community or conflict with any applicable plans, policies, ordinances, or regulations. There would be no impact.

3.13 Mineral Resources

Table 3-19. Mineral Resources Impacts

Mineral Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.13.1 Environmental Setting

Geologic processes in San Diego County such as intrusive emplacement of magma, volcanism, erosion, sedimentation, and hydrothermal processes determine the type, location, and concentration of all mineral resources. Cretaceous crystalline rocks, including granites, diorites, and gabbros and Upper Jurassic metavolcanics underlie most of the mountainous terrain in the central portion of the County. This rock type is primarily quarried for coarse aggregates that are needed for concrete, riprap (broken rock) for breakwaters and bank protection, and decorative and dimension stone.

3.13.2 Regulatory Setting

3.13.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with mineral resources that are applicable to the Project.

3.13.2.2 State

There are no State regulations, plans, programs, and guidelines associated with mineral resources that are applicable to the Project.

3.13.2.3 Local

San Diego County General Plan: The San Diego County General Plan contains several goals and policies relating to mineral resources; however, none are relevant to this Project's CEQA review.

3.13.3 Impact Assessment

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? and,

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 Impacts (Response to a & b). The California Geological Survey Division of Mines and Geology has not classified the Project Site as a Mineral Resource Zone under the Surface Mining

and Reclamation Act. California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project Site. No known mineral resources are present within the Project area. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. There would be no impact.

3.14 Noise

Table 3-20. Noise Impacts

Noise				
Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.14.1 Environmental Setting

The Project involves improvements to an existing pump station within a residential district in the community of Lakeside in San Diego County. The surrounding vicinity is comprised of residential properties to the north and west with the existing Helix Water Treatment Plant to the south. The existing pump station is located on Lake Jennings Park Road, approximately 500 feet west of Lake Jennings and approximately 1 mile north of Interstate 8.

Typical noise around the Project area are associated with residential activity and the existing Helix Water treatment plant. The County's daytime sound level limit is 50 dBA and the nighttime limit is 45 dBA as measured at the boundary between two properties. Construction noise is limited to 75 dBA for an 8-hour period between 7 a.m. and 7 p.m. at the boundary of the property.

3.14.2 Regulatory Setting

3.14.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with noise that are applicable to the Project.

3.14.2.2 State

There are no State regulations, plans, programs, and guidelines associated with noise that are applicable to the Project.

3.14.2.3 Local

According to the "County of San Diego Guidelines for Determining Significance – Noise", San Diego County has two principal noise regulations – the Noise Element of the General Plan and the Noise Ordinance.

The Noise Element of the San Diego General Plan limits sound level received by noise sensitive land uses (NSLUs), which includes residential receptors. The Noise Element requires an acoustical study to be conducted if it appears that a NSLU would be subject to a Community Noise Equivalent Level (CNEL) over 60 dB. The CNEL is a 24-hour averaged sound level with penalties applied to noise generated during evening and nighttime hours. If a development is expected to exceed 60 dB CNEL, modifications may be required to reduce noise emissions. A CNEL of 60 dB is approximately equivalent to a constant noise source operating at 53 dBA.

The County of San Diego Noise Ordinance set noise limits at the property boundary based on the zoning of the emitting and receiving properties. Since the subject property and the nearby receptors are zoned as Rural Residential (RR) and Residential – Single (RS), respectively, the residential noise limit is understood to be the applicable limit. The noise limit for residential zones is 50 dBA during daytime hours (7 a.m. to 10 p.m.) and 45 dBA during nighttime hours. The limit is a one-hour average, Leq-1hr. If measured ambient levels exceed the applicable noise limit, the limit is increased to the ambient noise level plus three decibels.

Additionally, the County of San Diego Noise Ordinance prohibits construction noise that exceeds an average of 75 dBA for an 8-hour period between 7 a.m. and 7 p.m., as measured at the property boundary.

3.14.3 Impact Assessment

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. The construction phase of the Project would involve temporary noise sources, originating predominantly from off-road equipment such as backhoes, tractors, and excavators. Construction would be limited to daytime hours and noise generated would not exceed the standards established in the Noise Element of the General Plan or the Noise Ordinance. Implementation of the Project would involve the replacement of outdoor pumps with indoor pumps and associated ventilation and cooling equipment, and equipment will be designed to ensure compliance with the standards established in the Noise Element of the General Plan and the Noise Ordinance. Any impacts would be mild and temporary, and therefore, less than significant.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. The construction phase of the Project is expected to include excavation and grading, both of which have potential to produce ground borne noises or ground borne vibration. However, construction would be temporary, and the noises generated onsite are not expected to generate significant impact at nearby receptors. Operation of the Project does not involve any processes expected to generate ground borne vibration or ground borne noise levels. Any impacts would be temporary and less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the Project is the Agua Caliente Airport, located approximately 4.4 miles west of the site. There would be no impact.

3.15 Population and Housing

Table 3-21. Population and Housing Impacts

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

3.15.1 Environmental Setting

The Project's setting is at the existing R.M Levy Water Treatment Plant, Chet Harritt Dam and Lake Jennings. The parcels of the Project Site are currently zoned as:

- Parcel- 39513038 is zoned as "RR" Residential.
- Parcel 39515210 is zoned as "A70" Agricultural.
- Parcel 39514001 is zoned as "S80" Special Purpose.

Corresponding General Plan land use designations for the site are Public/Semi-Public Facilities and Public Agency Lands.

3.15.2 Regulatory Setting

3.15.2.1 Federal

There are no federal or State regulations, plans, programs, and guidelines associated with population or housing that are applicable to the Project.

3.15.2.2 State

There are no federal or State regulations, plans, programs, and guidelines associated with population or housing that are applicable to the Project.

3.15.2.3 Local

2011 San Diego County General Plan: The San Diego County General Plan sets forth several goals and policies relating to population and housing, none of which are relevant to this Project's CEQA review.

3.15.3 Impact Assessment

a) Induce substantial population growth in an area, either directly (for example, by proposing new homesand businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Project does not propose additional housing or any related habitable housing infrastructure nor serve to promote population growth. Therefore, the Project would not encourage population growth directly or indirectly beyond that previously analyzed by the Census Bureau.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project would not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor will any be removed. Implementation of the Project would not result in displacement of people or existing housing. Therefore, there would be no impact.

3.16 Public Services

Table 3-22. Public Services Impacts

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

3.16.1 Environmental Setting

Fire Protection: The Project area is served by the Lakeside Fire Protection District, which has its nearest station at 14008 I-8BL, El Cajon, CA 92021, approximately 1.1 miles south of the Project Site.

Police Protection: Police protection is provided by the San Diego County Sheriff's Department, which has its nearest station at 12365 Parkside St, Lakeside, CA 92040, approximately 2.4 miles west of the Project Site.

Schools: The project area is served by the Lakeside Union School District. The nearest school to the Project is Lakeview Elementary School, which is located approximately 0.81 mile southwest of the site.

Parks: The Chet Harritt Pump Station is located just south of Chet Harritt Dam and Lake Jennings. Helix Water District owns and operates Lake Jennings reservoir, which includes 350 acres of recreational land forcamping, fishing, boating, hiking and other recreational activities.

Landfills: The closest landfill to the Project Site is the Sycamore Landfill located approximately 8 miles north-northwest of the site.

3.16.2 Regulatory Setting

3.16.2.1 Federal

There are no federal or State regulations applicable to this Project.

3.16.2.2 State

There are no federal or State regulations applicable to this Project.

3.16.2.3 Local

The 2011 San Diego County General Plan: The 2011 San Diego County General Plan sets forth several goals and policies relating to public services, none of which are relevant to this Project's CEQA review.

3.16.3 Impact Assessment

a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**
No Impact. The Project would not require the addition or alteration of any public services. The site is within San Diego County and would use existing public services. There would be no impact.

Fire Protection – The Project area is served by the Lakeside Fire Protection District, which has its nearest station at 14008 I-8BL, El Cajon, CA 92021, approximately 1.1 miles south of the Project Site. The existing site is currently equipped with fire hydrants and fire extinguishers. Furthermore, all site improvements related to fire protection would be performed pursuant to the Uniform Fire Code and NFPA. There would be no impact to public fire services.

Police Protection – Police protection is provided by the San Diego County Sheriff's Department, which has its nearest station at 12365 Parkside St, Lakeside, CA 92040, approximately 2.4 miles west of the Project Site. No residential or office construction is proposed for this Project and no additional police protection would be required. There would be no impact.

Schools – The project area is served by the Lakeside Union School District. The nearest school to the Project is Lakeview Elementary School, which is located approximately 0.81 mile southwest of the site. The Project would not result in an increase of population that would require additional school facilities; therefore, there would be no impact.

Parks and Other Public Facilities – As the Project would not induce population growth, directly or indirectly, the Project would not create a need for additional park or recreational services. The Helix Water District operated Lake Jennings Park, is the nearest park, located adjacent to the Project Site. No parks or additional public facilities would be impacted by this Project.

3.17 Recreation

Table 3-23. Recreation Impacts

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

3.17.1 Environmental Setting

The Chet Harritt Pump Station is located just south of Chet Harritt Dam and Lake Jennings. Helix Water District operates Lake Jennings Park which is a 350 recreational park around Lake Jennings that includes camping, fishing, boating, hiking and other recreational activities.

3.17.2 Regulatory Setting

3.17.2.1 Federal

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.2.2 State

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.2.3 Local

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.3 Impact Assessment

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The Project involves improvements to an existing pump station, WTP and lake. No population growth would be associated with the Project, and therefore, it would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. There would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project does not include recreational facilities. As there is no population growth associated with the Project, construction or expansion of nearby recreational facilities would not be necessary. There would be no impact.

3.18 Transportation

Table 3-24. Transportation Impacts

Transportation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 result in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to 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?	☐	☐	☒	☐

3.18.1 Environmental Setting

San Diego County's existing roadway system serves local and regional travel, with local streets primarily serving residential commuter trips and a multitude of major highways serving regional travel. Traffic congestion typically occurs on arterials and collectors. Interstate 8 and CA-67 are the primary transportation corridors around the Project Site.

Primary access to the site would be through the two entrances on Lake Jennings Park Rd, which intersects with Interstate 8 approximately 1 mile south of the site. Construction access will be provided by existing service roads to the pump station, WTP and lake.

Vehicle miles traveled (VMT) Travel to and from the site after the Project is completed would remain consistent with baseline VMT since the Project does not propose any new habitable structures or an increase in operational or maintenance staff as a result of the Project. VMT traveled may increase slightly during construction related to contractor employee and equipment trips, however, this slight increase would be transient and temporary, and as noted above VMT would return to baseline existing conditions after construction is complete.

3.18.2 Regulatory Setting

3.18.2.1 Federal

There are no federal laws or regulations that apply to the Project.

3.18.2.2 State

There are no State laws or regulations that apply to the Project.

3.18.2.3 Local

The 2011 San Diego County General Plan: The San Diego County General Plan sets forth several goals and policies relating to transportation and traffic, none of which are relevant to this Project's CEQA review.

3.18.3 Impact Assessment

a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 10564.3, subdivision (b)?

Less than Significant Impact (Response to a & b). The Project involves improvements to an existing Pump Station, WTP and lake located in Lakeside. Primary access to the site would be through two entrances on Lake Jennings Park Rd, which intersects with Interstate 8 approximately 1 mile south of the site. Lake Jennings Rd is a three-lane collector street. Construction traffic associated with the Project would be minimal and temporary, lasting approximately 10-12 months. Although construction would temporarily result in an increase in worker vehicle trips, Project activities do not propose any lane closures or traffic diversions. Operations would not require additional staffing or maintenance, and therefore operational traffic will be unchanged from existing conditions. There would not be a significant adverse effect to existing roadways in the area.

c) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Project does not propose any new access roads or access points.

d) Would the project result in inadequate emergency access?

No Impact. The Project does not propose any new access roads or access points. Furthermore, Project activities do not propose any lane closures or traffic diversions that would impact emergency access. The impacts to emergency access would be considered less than significant.

3.19 Tribal Cultural Resources

Table 3-25. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☒	☐	☐
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.19.1 Environmental Setting

The Project area is located within the southern portion of San Diego County which is the ancestral homeland of the Kumeyaay people. The Kumeyaay are the direct descendants of early Yuman hunter-gatherers who migrated to the area from the Colorado River region approximately 2000 years Before Present (BP). The Kumeyaay were organized by patrilineal, patrilocal lineages that claimed prescribed territories. Some Kumeyaay occupied procurement ranges that required considerable residential mobility, such as those in the deserts. In the mountains, some of the larger groups occupied a few large residential bases that would be occupied biannually, such as those occupied in the area surrounding Cuyamaca in the summer and fall, and in Guatay or Descanso during the rest of the year. Many Eastern Kumeyaay spent the period of time from spring through autumn in larger residential bases in the upland procurement ranges and wintered in mixed groups in residential bases along the eastern foothills on the edge of the desert. This variability in settlement mobility and organization reflects the great range of environments the Kumeyaay resided within.

Kumeyaay culture and society remained stable until the advent of missionization and displacement by Hispanic populations during the eighteenth century. The effects of missionization, along with the introduction of European diseases, greatly reduced the native population of southern California. By the early 1820s, California was under Mexico's rule. The establishment of ranchos under the Mexican land grant program further disrupted the way of life of the native inhabitants.

3.19.1.1 Records Search

Black & Veatch requested a records search from the SCIC for the Project APE and a ¼-mile radius on August 5th, 2022. The records search included a review of all previously identified cultural resources as well as reports on file. Documents received from the record search indicate that four cultural resources sites have been previously identified within the quarter-mile radius surrounding the Project area. Two of these sites CA-SDI-19644 (P-37-030954) and CA-SDI-19752 (P-37-031176) are scatters of marine shell with no associated artifacts. Both are located approximately 0.20 miles northwest of the Project area. Of the two remaining cultural resources sites identified in the record search, one CA-SDI-19645 (P-37-030955) is listed as an historic concrete foundation with container glass fragment. The site is located approximately 0.24 miles south of the Project area. The resource form indicates that investigators interpreted the site as a possible animal shelter dating to the mid 1960's. The last cultural resources site identified in the records search was the Chet Harritt Dam (P-37-38826). Built between 1960 and 1962, the dam was constructed to supply drinking water to the surrounding communities. Information listed on the resource form indicates that the dam is one of dozens of dams constructed within San Diego County during the mid-twentieth century and it is not eligible for listing on the NRHP or the CRHR. While a small section of the Project alignment is located within a portion of the dam, no significant impacts to the dam are anticipated as a result of the Project. (Appendix C)

3.19.1.2 Native American Outreach

The Native American Heritage Commission (NAHC) was contacted in early April of 2022 for a Sacred Land File (SLF) search. A response from the NAHC was received on April 25th, 2022, with positive results for the Project area. The NAHC provided a list of thirteen tribal organizations that should be contacted and stated that the Barona Group of the Capitan Grande (Barona) and the Viejas Band of Kumeyaay Indians (Viejas) in particular should be contacted from the list and that the Kumeyaay Cultural Repatriation Committee (KCRC) not on the list should also be contacted for more information. Letters to all tribal organizations were sent via certified mail in early May of 2022, with follow up email correspondence shortly thereafter. On May 11th, 2022, the Viejas responded via email indicating that they reviewed the proposed Project and determined that the Project Site has cultural significance or ties to the Viejas. They requested that a Kumeyaay Cultural Monitor be on site for ground disturbing activities to inform them of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. On May 20th, 2022, Ms. Ashley Longrie of the Environmental Protection Agency (EPA) called the KCRC to request an appropriate email address to send project information too. Ms. Longrie spoke with Mr. Clint Linton of the KCRC who requested additional information on the Project during that phone call. Later that same day Ms. Longrie emailed a portion of the requested Project information to Mr. Linton and indicated that she would send the remaining information once it became available. On June14th, 2022 Ms. Longie sent a follow up email to Mr. Linton with the balance of information he had previously requested for the Project. Following that email on June 14th, no further inquiries and or comments have been received from Mr. Linton or any other tribal representatives. Further discussion and details of the outreach efforts can be found in Appendix C.

3.19.1.3 Field Survey

While no survey was conducted for the current proposed Project, two previous cultural resources surveys have been conducted for major portions of the current Project alignment. The first was a mitigated negative declaration (MND) conducted for the R.M. Levy Water Treatment Plant Expansion Project in 1997. Results of that survey were negative for the presence of cultural resources. The second and more recent survey conducted in 2021 was for a sewer pipeline replacement project also located within the proposed Project alignment. In both instances the two previous surveys covered all portions

of the Project alignment that may have any potential to contain cultural resources. Remaining portions of the Project alignment not covered by these surveys included an area of steep embankment that leads to Lake Jennings Road and on up the northern drainage swale of the Chet Harritt Dam. A review of recently captured virtual walkdown imagery of the Project area using virtual 360 technology shows that not only is the steep embankment area and northern drainage swale of the Chet Harritt Dam heavily disturbed, but all other portions of the proposed Project appear to be heavily disturbed from past construction activities as well. While some introduced plants, grasses, and weeds are present in some areas, natural vegetation was only observed in the general vicinity and consisted mostly of coastal sage scrub plants, including sagebrush, various sages, and chamise. Visibility along the Project alignment ranged from 80 to 100 percent. Further details regarding previous surveys and the current proposed Project can be found in Appendix C.

3.19.1.4 Project Site Existing Conditions

The Project area consists of the existing water treatment plant facilities and a small portion of the Chet Harritt Dam. Both the water treatment plant and the dam were initially constructed in the early-1960's. Since that time the water treatment plant and facilities have been subject to significant modifications and the ground surface has been heavily disturbed by previous grading, subterranean excavations, and the installation of above- and below-ground facility equipment. No archaeological resources have been identified during previous surveys conducted in 1997 or 2021 at the facilities and none were observed during the current review of virtual Project imagery. Due to the substantial modifications at the water treatment plant none of the existing Plant elements or structures appear to be eligible for inclusion on the NRHP or the CRHR under any of the relevant criteria. No part of the site is considered a significant historical resource or unique archaeological resource. Further details regarding previous surveys and the current Project can be found in Appendix C.

3.19.2 Regulatory Setting

3.19.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with tribal cultural resources that are applicable to the Project.

3.19.2.2 State

Assembly Bill 52 (PRC Section 21080.3.1): The Project is subject to consultation with California Native American Indian Tribes, if required pursuant to California Public Resources Code Section 21080.3.1 (AB 52). The PRC requires the lead agency must, within 14 days of determining that an application for a project is complete, notify any California Native American Tribe in writing that has previously requested such notification about the project from the lead agency and inquire whether the Tribe wishes to initiate formal consultation. Tribes have 30 days from receipt of said notification to request formal consultation; tribal consultation is required only with those tribes that formally request consultation, in writing. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation for impacts to Tribal Cultural Resources or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

California Environmental Quality Act (PRC 21000, *et seq.)* and the CEQA Guidelines (CCR Title 14, Chapter 3, Section 15000. *et seq*.):
CEQA is applicable to discretionary actions by State or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources, generally (see Section 3.6) and Tribal Cultural Resources

(TCR), specifically (this section) which analyzes impacts to tribal cultural resources directly related to California Native American Tribes geographically affiliated with the Project area. The distinction for TCR analysis versus the broader topic of "Cultural" impacts in Section 3.5 is that TCRs are described as a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with tribal cultural values specific to a California Native American Tribe.

3.19.2.3 Local

There are no local regulations, plans, programs, or guidelines associated with tribal cultural resources that are applicable to the Project.

3.19.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? and,

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant Impact with Mitigation Incorporated. As indicated above, Ms. Ashley Longrie of the EPA contacted the Native American Heritage Commission (NAHC) in early April of 2022 for a Sacred Land File (SLF) search. A response from the NAHC was received by Ms. Longrie on April 25th, 2022, with positive results for the Project area. The NAHC provided a list of thirteen tribal organizations that should be contacted and stated that the Barona Group of the Capitan Grande (Barona) and the Viejas Band of Kumeyaay Indians (Viejas) in particular should be contacted from the list and that the Kumeyaay Cultural Repatriation Committee (KCRC) not on the list should also be contacted for more information. The complete list of all fourteen Native American organizations contacted included the following:

1. Barona Group of the Capitan Grande, Edwin Romero, Chairperson
2. Campo Band of Diegueno Mission Indians, Ralph Goff, Chairperson
3. Ewiiaapaayp Band of Kumeyaay Indians, Robert Pinto, Chairperson & Michael Garcia, Vice Chairperson
4. Lipay Nation of Santa Ysabel, Virgil Perez, Chairperson
5. Inaja-Cosmit Band of Indians, Rebecca Osuna, Chairperson
6. Jamul Indian Village, Lisa, Cumper, Tribal Historic Preservation Officer, Erica Pinto, Chairperson
7. Kwaaymii Laguna Band of Mission Indians, Carmen Lucas
8. LaPosta Band of Diegueno Mission Indians, Javaughn Miller, Tribal Historic Preservation Officer, Gwendolyn Parada, Chairperson
9. Manzanita Band of Kumeyaay Nation, Angela Elliott Santos, Chairperson
10. Mesa Grande Band of Diegueno Mission Indians, Michael Linton, Chairperson
11. San Pasqual Band of Diegueno Mission Indians, Allen Lawson, Chairperson

12. Sycuan Band of the Kumeyaay Nation, Cody Martinez, Chairperson
13. Viejas Band of Kumeyaay Indians, John Christman, Chairperson
14. Kumeyaay Cultural Repatriation Committee, Clint Linton

Letters to all Tribal organizations were sent via certified mail in early May of 2022, with follow up email correspondence shortly thereafter. On May 11th, 2022, the Viejas responded via email to Ms. Longrie, indicating that they reviewed the proposed Project and determined that the Project Site has cultural significance or ties to the Viejas. They requested that a Kumeyaay Cultural Monitor be on site for ground disturbing activities to inform them of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. On May 20th, 2022, Ms. Ashley Longrie of the EPA called the KCRC to request an appropriate email address to send project information too. Ms. Longrie spoke with Mr. Clint Linton of the KCRC who requested additional information on the project during that phone call. Later that same day Ms. Longrie emailed a portion of the requested Project information to Mr. Linton and indicated that she would send the remaining information once it became available. On June 14th, 2022, Ms. Longie sent a follow up email to Mr. Linton with the balance of information he had previously requested for the Project. Following that email on June 14th, no further inquiries and or comments have been received from Mr. Linton or any other tribal representatives. A copy of Tribal correspondence can be found in (Appendix C).

While the Project alignment appears to have been heavily disturbed from past construction related activities and no archaeological or Tribal cultural resources have been identified during either previous surveys or the current review, results from the SLF search were positive. Furthermore, the Viejas have indicated that the Project Site has cultural significance to their Tribal organization. As a result, there is a potential for construction to impact previously unknown Tribal cultural resources. The following mitigation measure CUL-3 will be implemented to reduce impacts to unknown Tribal cultural resources. With implementation of mitigation measure CUL-3, impacts to Tribal cultural resources would be reduced to a less-than-significant level.

3.19.3.1 Mitigation

The following mitigation measure will be implemented to reduce impacts to unknown Tribal cultural resources.

Mitigation CUL-3 (Tribal Cultural Resource Monitoring). Both a qualified Project Archaeologist and a Native American monitor are to be onsite during earth disturbing activities for the proposed Project. The frequency and location of monitoring of soils will be determined by the Project Archaeologist in consultation with the Native American monitor. Both the Project Archaeologist and Native American monitor will evaluate fill soils to ensure that they are negative for cultural resources. If tribal cultural resources are identified, both the Project Archaeologist and Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. The Project Archaeologist in consultation with the Native American monitor shall determine the significance of discovered resources. Work may resume in the area of discovery only after significance has been evaluated and an appropriate course of action has been determined by both the Project Archaeologist and the Native American Monitor. Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program. If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Native American monitor. The program shall include reasonable efforts to

preserve (avoid) unique cultural resources of associated with sacred sites to the extent practical. Upon completion of construction grading activities, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy. The report shall include evidence that all prehistoric materials have been curated at a state approved curation facility or Tribal curation facility that meets federal standards per 36 CFR Part 79, or alternatively have been repatriated to a culturally affiliated tribe.

3.20 Utilities and Service Systems

Table 3-26. Utilities and Service Systems Impacts

Utilities and Service Systems				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Require or result in the construction of new water or water, wastewater treatment facilities or storm drainage, electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.20.1 Environmental Setting

The Project Site is located within San Diego County, which is served by the existing WWTP. The site and surrounding area is essentially developed with suburban residential, commercial and utility facilities. The site is already served by existing utility services as described below.

3.20.1.1 Water Supply

The project is located within the San Diego River Valley Groundwater Basin of the South Coast Hydrologic Region. The San Diego River Valley subbasin is identified by DWR as a Very Low Priority subbasin. The Project area is served by Helix Water District.

3.20.1.2 Wastewater Collection and Treatment

The Project involves improvements to an existing pump station, and reservoir intended to meet the growing water needs of San Diego County. The Project would beneficially impact the County's drinking water and water treatment systems and would not adversely affect the facilities.

3.20.1.3 Landfills

The closest landfill to the Project Site is the Sycamore Landfill located approximately 8 miles north-northwest of the site.

3.20.2 Regulatory Setting

3.20.2.1 Federal

Clean Water Act: The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

3.20.2.2 State

State Water Resources Control Board's Waste Discharge Requirement (WDR) Program: State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005, et seq. (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non-Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27.

Assembly Bill 2882: AB 2882 relates to water conservation programs and authorizes any public entity that supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity to adopt and enforce, by ordinance or resolution, a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity.

This bill authorizes a public entity to adopt allocation-based conservation water pricing meeting certain requirements. The bill would require that revenues derived from allocation-based conservation water pricing not exceed the reasonable cost of water service, including basic costs and incremental costs, as defined.

California Green Building Standards Code: Part 11 of Title 24, CCR, is the California Green Building Standards Code, also known as the CAL Green Code. CAL Green applies to the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis, including additions and alterations to existing buildings which increase the building's conditioned area, interior volume, or size. The purpose of CAL Green is to improve public health, safety, and general welfare through enhanced design and construction of buildings using concepts which reduce negative impacts and promote those principles which have a positive environmental impact and encourage sustainable construction practices.

CAL Green also specifies requirements for applications regulated by the California Building Standards Commission, California Energy Commission, Division of the State Architect, Department of Public Health, Office of Statewide Health Planning and Development, and the Department of Water Resources.

Section 5.408 of Cal Green requires a minimum of 65% of nonhazardous construction and demolition waste be recycled and/or salvaged for reuse.

3.20.2.3 Local

San Diego County 2011 General Plan: The General Plan sets for the following goals and policies regarding utilities and service systems and which have potential relevance to the Project's CEQA review: Also see previous Section 3.11.2.3 for additional goals and policies.

Goal LU-12: Infrastructure and Services Supporting Development. Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.

Policy LU-12.1 Concurrency of Infrastructure and Services with Development. Require the provision of infrastructure, facilities, and services needed by new development prior to that development, either directly or through fees. Where appropriate, the construction of infrastructure and facilities may be phased to coincide with project phasing.

Policy LU-12.2: Maintenance of Adequate Services. Require development to mitigate significant impacts to existing service levels of public facilities or services for existing residents and businesses. Provide improvements for Mobility Element roads in accordance with the Mobility Element Network Appendix matrices, which may result in ultimate build-out conditions that achieve an improved Level Of Service (LOS) but do not achieve a LOS of D or better.

LU-12.3 Infrastructure and Services Compatibility. Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.

LU-12.4 Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

3.20.3 Impact Assessment

a) **Would the project require or result in the construction of new water or wastewater treatment or storm water drainage, electric power, natural gas or telecommunication facilities the construction or expansion of which could cause significant environmental effects?**
Less than Significant Impact. The Project involves improvements to an existing pump station, WTP and lake and does not propose any uses that would create additional demand for domestic water, nor would the Project result in an increase in wastewater. Furthermore, the Project would not require the construction of new water or wastewater treatment facilities or the expansion of existing facilities. There is no population increase associated with Project and operations will not require additional staffing or maintenance. Therefore, Project-related impacts to water or wastewater treatment facilities would be less than significant.

b) **Does the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**
No Impact. The Project involves improvements to the existing pump station, WTP and lake. The Project would have sufficient water supplies and be available to serve the project future development during normal, dry and multiple dry years. Impacts would be less than significant.

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

No Impact. The Project involves improvements to the existing pump station, WTP and lake. There is no population increase associated with Project and operations would not require additional staffing or maintenance. There would be no impact.

d) Would the project generate solid waste in excess of State or local standards in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The construction phase of the Project would generate solid waste in the form of construction debris. However, the Project would comply with Section 5.408 of the California Green Building Standards Code, which requires a minimum of 65% of nonhazardous construction and demolition waste be recycled and/or salvaged for reuse. The Project involves improvements to the existing pump station, WTP and lake in order to meet the growing water needs of San Diego County. Operations would not require additional staffing or maintenance, and therefore solid waste associated with employees and vendors onsite would be unchanged from existing conditions. Any Project- related impacts associated with landfill capacity and solid waste disposal would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Project would continue to comply with all federal, State, and local statutes and regulations related to solid waste. Therefore, there would be no impact.

3.21 Wildfire

Table 3-27. Wildfire Impacts

Wildfire Impacts				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	☐	☒	☐	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.21.1 Environmental Setting

The Project's setting is at the existing R.M Levy Water Treatment Plant, Chet Harritt Pump Station, Chet Harritt Dam and Lake Jennings. The site is zoned M-2 (Intensive Industrial) and PQ (Public Quasi Public). Corresponding General Plan land use designations for the site are Public/Semi-Public Facilities and Public Agency Lands. The responsibility for the prevention and suppression of fires within these zones belongs to the Lakeside Fire Protection District and pursuant to any mutual aid agreements with CAL FIRE. To the northeast of Lake Jennings Park Rd, which contains Chet Harritt Dam and Lake Jennings, is located in a Very High Fire Hazard Severity Zone and is in a State Responsibility Area according to the CAL FIRE Fire Hazard Severity Zone Maps (FHSZM). Southwest of Lake Jennings Park Rd contains R.M Levy Water Treatment Plant and Chet Harritt Pump Station. This area is also in a Very High Fire Hazard Severity Zone and is in a Local Responsibility Area according to the CAL FIRE FHSZM.

3.21.2 Regulatory Settings

3.21.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with wildfires that are applicable to the Project.

3.21.2.2 State

There are no state regulations, plans, programs, or guidelines associated with wildfires that are applicable to the Project.

3.21.2.3 Local

San Diego County 2011 General Plan: The General Plan sets for the following goals and policies regarding wildfires, and which have potential relevance to the Project's CEQA review since the Project is located in or near a Fire Hazard Safety Zone (FHSZ):

Policy S-1.7: Community Plan Updates. Ensure community plan updates consider the following guidance:

- Identification of key hazards of concern impacting existing/future development
- Identification of existing evacuation routes and new routes necessary to ensure effective evacuation
- Incorporation of these routes into Community Wildfire Protection Plans
- Identification of critical/essential facilities, key infrastructure, and telecommunications facilities
- Identify local public road networks that include potential deficiencies and future improvements to facilitate effective emergency response and evacuation
- Incorporate Resource Management/Brush Clearance Plans as measures within a Fire Protection Plan (FPP) to provide guidance for vegetation maintenance and fuel modification
- Identify the Local Fire Agency having jurisdictional authority for future fire protection services
- Identify Mobility Element roadway classifications that ensure future daily and evacuation/emergency response needs are met

Policy S-2.5: Existing Development within Hazard Zones. Implement warning systems and evacuation plans for developed areas located within known hazard areas (i.e., flood, wildfire, earthquake, other hazards).

Goal S-4: Minimized Fire Hazards. Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.

Policies

S-4.1: Defensible Development. Require development to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life safety resulting from wildland fires.

S-4.2: Development in Hillsides and Canyons. Require development located in wildland areas, near ridgelines, top of slopes, saddles, or other areas where the terrain or topography affects its susceptibility to wildfires to be located and designed to account for topography and reduce the increased risk from fires. Density reduction may be necessary to reduce fire hazards if the location and design of the development cannot reduce the threat effectively.

S-4.3: Minimize Flammable Vegetation. Site and design development to minimize the likelihood of a wildfire spreading to structures by minimizing pockets or peninsulas or islands of flammable vegetation within a development.

S-4.4: Service Availability. Plan for development where fire and emergency services are available or planned.

S-4.5: Access Roads. Require development to provide additional access roads where feasible to provide for safe access of emergency equipment and civilian evacuation concurrently. The width, surface, grade, radius, turnarounds, turnouts, bridge construction, vegetative management and brush clearance around roadways, and lengths of fire apparatus access roads shall meet the requirements of the State and San Diego County Consolidated Fire Codes. All requirements and any deviations will be at the discretion of the Fire Code Official.

S-4.6: Fire Protection Plans. Ensure that development located within fire hazard areas implement measures in a Fire Protection Plan that reduce the risk of structural and human loss due to wildfire.

S-4.7: Fire Resistant Construction. Require all new, remodeled, or rebuilt structures to meet current ignition resistance construction codes and establish and enforce reasonable and prudent standards that support retrofitting of existing structures in high fire hazard areas.

S-4.8: Fire Threat Reduction. Reduce human-caused fires with a high visibility prevention program in all publicly accessible wildfire prone areas.

Policy EJ-5.9: Weatherization for Public Buildings (all unincorporated areas) Examine public buildings and facilities in unincorporated areas, including EJ Communities, to eliminate current gaps in weatherization efforts to ensure the safety and resiliency of these facilities for a variety of climate scenarios including extreme heat, flooding, and wildfire smoke.

3.21.3 Impact Assessment

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) **Substantially impair an adopted emergency response plan or emergency evacuation plan?**
Less than Significant Impacts. Construction activities are not occurring on roadways and would not impair adopted emergency response plan or emergency evacuation plans. After completion of construction, the new facilities and components would be either below ground or not within a roadway right-of-way and would therefore not affect emergency access. No operational impacts related to emergency access would occur.

b) **Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**
Less than Significant Impacts with Mitigation Incorporated. Since the site is located in a VHFHSZ the use of construction equipment with combustion engines during construction of the proposed modifications would have the potential to exacerbate wildfire risks in areas mapped as VHFHSZs; however, this impact would be mitigated through implementation of mitigation measure W-1, which would involve avoiding construction in areas of dense foliage during dry conditions, as feasible, and/or incorporating brush fire prevention and management practices. With mitigation, the modifications would not exacerbate wildfire risks in a manner that would expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) **Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? and,**

No Impact. The Project would involve the construction of infrastructure in the form of belowground pipelines and water infrastructure. The project would not require the installation or maintenance of infrastructure that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. No impacts would occur.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?
Less than Significant Impacts. Facilities associated with the proposed modifications that are located in flood hazard areas are primarily belowground pipelines and other water infrastructure that would not be at risk from downstream flooding.

3.21.3.1 Mitigation

The following mitigation measure will be implemented to reduce impacts to unknown Tribal cultural resources.

Mitigation W-1 (Fire Safety Plan). Fire Safety Plan. To minimize the risk of losses resulting from wildfire, the following measures shall be implemented during project construction for the project:

1. Construction within areas of dense foliage during dry conditions will be avoided, when feasible.

2. In cases where avoidance is not feasible, brush fire prevention and management practices will be incorporated in a Fire Prevention Plan by the construction contractor. Specifics of the brush management program will be incorporated in this plan.

CAL FIRE. FHSZ Map. https://egis.fire.ca.gov/FHSZ/ Accessed 18 October 2022.

3.22 CEQA Mandatory Findings of Significance

Table 3-28. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance				
Does the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) 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, 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) 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) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.22.1 Impact Assessment

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, 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 Impact with Mitigation Incorporated. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources and cultural resources from the implementation of the Project would be less than significant with the incorporation of the mitigation measures discussed in Section 4. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period 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 Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project involves improvements to the existing Chet Harritt Pump Station, R.M. Levy WTP and LJAs in order to upgrade and replace aged or obsolete equipment and enhance the drinking water supply in San Diego County. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project would not result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

4.0 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the existing Chet Harritt Pump Station Replacement, Lake Jennings Aeration System, Clearwell Effluent Flow Meter projects (collectively referred to herein as "Project")in the San Diego County. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, BIO-1 would be the first mitigation measure identified in the Biological Resources analysis of the IS/MND.

The first column of Table 4-1 identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the agency to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Biological Resources					
BIO-1a: CAGN and General Avian Protection					
As specified in the project Informal Section 7 Consultation, the following measures will be implemented to avoid and minimize indirect impacts to CAGN 1. For temporary impacts to gnatcatcher habitat, the work site will be returned to preexisting contours, where feasible, and revegetated with appropriate local native species. Native hydroseed will be used to revegetate after construction is completed. The seed mix will be developed in coordination with a biologist familiar with the habitat constituents onsite. The application of hydroseed will be conducted under the supervision of the biologist. 2. The alignment of pipelines will be coordinated with a biologist familiar with the sensitivity of coastal sage scrub to minimize impacts to the habitat. 3. Impacts will be minimized through the timing of work in suitable CAGN habitat to avoid the breeding season (February 15 to August 30) for the species whenever possible. Areas of coastal sage scrub habitat to be directly impacted by construction shall be cleared or grubbed prior to the CAGN breeding season. If construction activities must commence during the breeding season, impacts will be minimized by conducting nest surveys within 300 feet of all proposed activities no more than seven days in advance of proposed work. If an active nest is encountered, no construction activities will be implemented within a minimum distance of 100 feet of the nest. 4. All construction areas adjacent to coastal sage scrub habitat will retain the boundary fencing between the construction area and the habitat or be temporarily fenced, if there is no existing fence, to prevent the expansion of the disturbance footprint. Any violations of the corridor will be documented and reported by the District.	Prior to construction and during construction	Daily	HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
5. Landscaping of construction areas will be conducted in a manner compatible with normal operational requirements of the Water Treatment Plant and Pump Station and designed to minimize erosion and weedy species invasion into adjacent coastal sage scrub. 6. Construction work areas will be watered as needed to control dust during work periods.					
BIO-1b: CAGN and General Avian Protection					
To avoid direct impacts on breeding birds, including the coastal cactus wren, raptors, and/or other special status avian species, removal of vegetation within the proposed area of disturbance should occur outside of the breeding season for these species (January 15 through September 15). If the removal of vegetation within the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds within the proposed area of disturbance. The preconstruction survey shall be conducted within seven calendar days prior to the start of construction activities, including the removal of vegetation. If active nest(s) are detected, the biologist will determine an appropriate avoidance buffer and monitor the nest(s) during construction until no longer active. If construction must occur in proximity to the active nest(s), appropriate noise attenuation measures and a monitoring regimen shall be implemented.	Prior to the start of construction and during construction	Daily	HWD	-	-
BIO 1c: General Construction BMP s					
The District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary orange construction fencing, which clearly delineates the edge of the approved limits of grading and clearing as well as the edges of environmentally sensitive areas, specifically Diegan coastal sage scrub and aquatic resources, adjacent to the project. The biological monitor will verify the project limits of work. Full-time biological monitoring is required during all vegetation clearing, grubbing, and/or trimming and as needed during the remainder of construction activities. The District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. Monitoring shall include the inspection of construction work areas, including staging and storage areas, to confirm that activities	Prior to the start of construction and during construction	Daily	HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. The biologist will also verify that project activities are in compliance with the project requirements and mitigation measures. The qualified biologist will prepare and give a worker environmental awareness training to all on-site employees prior to the start of construction activities. New employees will be trained prior to the start of work on the site. The environmental awareness training will include a discussion of all sensitive resources that occur within the project limits and with the potential to be directly or indirectly impacted. The training will also discuss the required compliance with project design features, mitigation measures, and permit conditions.					
BIO 1d: Habitat Impact Mitigation Recommendations					
The District shall implement compensatory mitigation for impacts to sensitive habitat according to the ratios provided in the table below, unless otherwise conditioned in permits and/or discretionary approvals issued by the USFWS, USACE, RWQCB, and/or CDFW, as applicable. **Mitigation Ratios for Impacts to Sensitive Natural Communities** **Sensitive Natural Community** / **Mitigation Ratio** Non-native grassland: 0.5:1 Diegan coastal sage scrub: 2:1 Freshwater marsh: 3:1 Southern willow scrub: 3:1	After construction activities	As needed per restoration plan	HWD	-	-

Mitigation Monitoring and Reporting Program						
Mitigation Measures		When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Open water	1:1					

Sensitive vegetation communities that undergo temporary impacts should be restored following an approved restoration plan developed by a qualified biologist. Mitigation for any permanent impacts within sensitive vegetation communities can be achieved through on-site habitat creation, restoration, enhancement and/or preservation, or through the purchase of mitigation credits at an agency-approved mitigation bank.
The District shall restore or revegetate temporary impact areas at a 1:1 ratio through the preparation and implementation of a restoration plan, which shall include the following, as prepared by a qualified biologist or restoration specialist, at a minimum:

- Location of the restoration site;
- Plant species to be used, container sizes, and seeding rates;
- Schematic depicting the restoration area;
- Planting schedule;
- Description of the irrigation methodology;
- Measures to control exotic vegetation on site;
- Specific success criteria;
- Monitoring program;
- Contingency measures should the success criteria not be met; and
- Identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

BIO-1e: Habitat Impact Mitigation Recommendations

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
If direct impacts to jurisdictional waters and/or wetlands cannot be avoided (i.e., discharge of dredge or fill material, destruction of riparian habitat, modification of streambed or lake), the District shall complete the following: • Prepare and submit a notification, as applicable, to the USACE for unavoidable impacts to Waters of the U.S. pursuant to the Clean Water Act Section 404; • Prepare and submit a Clean Water Act Section 401 Request for Water Quality Certification or State Porter-Cologne Water Quality Control Act Report of Waste Discharge to the RWQCB for unavoidable impacts to Waters of the State; and • Prepare and submit a CFG Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to jurisdictional streambed and riparian habitat. The District shall implement compensatory mitigation at a minimum ratio of 1:1, which could be adjusted during permitting with the USACE, RWQCB, and CDFW, for unavoidable temporary and permanent impacts on jurisdictional waters and wetlands, which would include one or a combination of the following measures: • Purchase of preservation, establishment, re-establishment, rehabilitation and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank or another approved mitigation bank in the region. • Implement permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. • Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a 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 providing for the conservation of the mitigation.	Prior to construction and after construction	As needed per restoration plan	HWD	-	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
• A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.					
BIO-1f: Fencing					
Fencing should be installed around the construction limits to minimize impacts and deter wildlife and unaffiliated personnel from entering the construction site. All impacts outside of the designated construction limits should be avoided.	Prior to the start of construction and during construction	Daily	HWD	-	
BIO-1g: Erosion Control					
Appropriate erosion, dust control, and stormwater pollution prevention measures should be implemented and monitored on a regular basis. Project will comply with the Construction General Permit and Air Quality Management District rules and standards during construction. Dust control measures will include spraying work or driving areas with water and careful operation of equipment. An effective SWPPP will be developed and implemented that prescribes appropriate best management practices (BMPs) to avoid or limit runoff, erosion, and sediment transport.	Prior to the start of construction and during construction	As required by, CGP/SWPPP and AQD Dust Control.	HWD	-	
BIO-1h: Spill Control					
Spill prevention measures should be implemented, including providing secondary containment on all foreign liquids and pollutants placed within the construction area. Fueling should be avoided within 100 feet of aquatic resources. Drip pans should be used under all idle equipment. Spill kits should be onsite throughout duration of construction. A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction.	Prior to the start of construction and during construction	As required by regulation	HWD	-	-
CUL-1: Archaeological Resources					
In the event that archaeological resources (sites, features, or artifacts) are exposed	During	Daily	HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find. Construction activities may continue in other areas but should be redirected a safe distance from the find. If the new discovery is evaluated and found to be significant under CEQA and avoidance is not feasible, additional work such as data recovery may be warranted. In such an event, a data recovery plan should be developed by the qualified archaeologist in consultation with the lead agency and Native American representatives, if applicable. Ground disturbing work can continue in the area of the find only after impacts to the resources have been mitigated and with lead agency approval.	construction activities				
CUL-2: Human or Potentially Human Remains					
In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify the person or persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site and make recommendations for the treatment and disposition, in consultation with the property owner, of the human remains.	During construction activities	Daily	HWD	-	-
Mitigation CUL-3: (Tribal Cultural Resource Monitoring)					
Both a qualified Project Archaeologist and a Native American monitor are to be onsite during earth disturbing activities for the proposed Project. The frequency and location of monitoring of soils will be determined by the Project Archaeologist in consultation with the Native American monitor. Both the Project Archaeologist and Native American monitor will evaluate fill soils to ensure that they are negative for cultural resources. If tribal cultural resources are identified, both the Project Archaeologist and Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. The Project Archaeologist in consultation with	During construction activities	Daily	HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
the Native American monitor shall determine the significance of discovered resources. Work may resume in the area of discovery only after significance has been evaluated and an appropriate course of action has been determined by both the Project Archaeologist and the Native American Monitor. Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program. If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Native American monitor. The program shall include reasonable efforts to preserve (avoid) unique cultural resources of associated with sacred sites to the extent practical. Upon completion of construction grading activities, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy. The report shall include evidence that all prehistoric materials have been curated at a state approved curation facility or Tribal curation facility that meets federal standards per 36 CFR Part 79, or alternatively have been repatriated to a culturally affiliated tribe.					
HAZ-1a: (Hazard Communication Training - Lead)					
Upon commencing work operations involving disturbance of lead, the Contractor engaged in the work shall conduct an “Initial Exposure Assessment” for each planned “trigger task” in accordance with Cal/OSHA regulations to determine potential lead exposures to workers. Prior to commencing such operations, the Contractor must assume workers would be exposed to airborne levels above the Permissible Exposure Limit and must provide workers with Hazard Communication Training, and personal protective equipment, including HEPA-equipped respirators. A hand- washing facility must be present at the worksite.	Prior to construction and during construction	Daily, during ground-disturbing activities	HWD	-	-
HAZ-1b: (Disposal – Lead Containing Paint)					

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Prior to Disposal of lead-containing paint or elements which include lead-containing paint, the State of California requires that representative sample(s) of the waste stream waste (along with the substrate where bonded) be submitted to an accredited laboratory and that a Total Threshold Limit Concentration (TTLC) test be performed to determine the total lead content.	Prior to construction and during construction	Daily, during ground-disturbing activities	HWD	-	-
HAZ-1d: (Toxicity Characteristic Leaching Procedure)					
Dependent upon the result, a SW846 (STLC) may be required to determine the amount of leachable lead. These tests would determine transportation and disposal requirements and may greatly impact the ultimate cost of the work. Due to potential delays associated with conducting the analysis of the waste, it is recommended that the waste characterization be initiated prior to soliciting bids for the work.	Prior to construction and during construction	Daily, during ground-disturbing activities	HWD	-	
HAZ-2/W-1: (Fire Safety Plan)					
To minimize the risk of losses resulting from wildfire, the following measures shall be implemented during project construction for the project: 1. Construction within areas of dense foliage during dry conditions will be avoided, when feasible. 2. In cases where avoidance is not feasible, brush fire prevention and management practices will be incorporated in a Fire Prevention Plan by the construction contractor. Specifics of the brush management program will be incorporated in this plan.	Prior to construction and during construction	Daily or as specified in Fire Safety Plan	HWD	-	-
HYD-1a: (Conduct Site-Specific Water Quality Investigation)					

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
A site-specific water quality investigation will be completed prior to approval of final project design. All applicable results and recommendations from this investigation will be incorporated into the final project design documents to address identified potential long-term water quality issues related to conditions such as: anticipated and potential pollutants to be used, stored or generated on-site; the location and nature (e.g., impaired status) of on-site and downstream receiving waters; and project design features to avoid/address potential pollutant discharges. The final project design documents will also encompass standard design practices from sources including NPDES criteria and other applicable regulatory standards (with all related requirements to be included in engineering/design drawings and construction contract specifications). A summary of the types of BMPs typically associated with identified potential water quality concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The BMPs identified/recommended as part of the described site-specific water quality investigation will take priority over the more general types of standard regulatory/industry measures listed below: Low Impact Development (LID)/Site Design BMPs: LID/site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential, and pollutant generation to the maximum extent practicable by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source through efforts such as: (1) minimizing developed/ disturbed areas to the maximum extent feasible; (2) utilizing natural and/or unlined drainage features in on-site storm water systems; (3) disconnecting impervious surfaces to slow concentration times, and directing flows from impervious surfaces into landscaped or vegetated areas; and (4) using pervious surfaces in developed areas to the maximum extent feasible. Source Control BMPs: Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages by reducing on- site pollutant generation and off-site pollutant transport through measures such as: (1) installing “no dumping” stencils/tiles and/or signs with prohibitive language at applicable locations such as drainages and storm drain inlets to discourage illegal dumping; (2) designing trash storage areas to reduce litter/pollutant discharge through methods such as paving with impervious surfaces, installing screens or walls to prevent trash dispersal, and providing attached lids and/or roofs for trash containers; (3) designing site landscaping to maximize the retention of native vegetation and use of appropriate native, pest-resistant, and/or drought-tolerant varieties to reduce irrigation	Prior to construction		HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
and pesticide application requirements; and(4) providing secondary containment (e.g., enclosed structures, walls, or berms) for applicable areas such as trash or hazardous material use/storage.					
HYD-1b: (Erosion Control Measures)					
The applicant shall define the limits of any construction within the APE. Wattles or other appropriate erosion controls shall be placed between ground-disturbing activities and areas where sedimentation could flow out of the APE.	Prior to construction and during construction	Daily, during construction activities	HWD	Retention of written/ photographic documentation of all BMPs utilized and maintained throughout construction.	-
HYD-1c: Storm Water Pollution Prevention Plan					

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.	Prior to construction and during construction	Daily, during construction activities	HWD	Retention of approved SWPPP in the file.	-
HYD-1d: Use of Best Management Practices					
BMPs shall be implemented as appropriate. BMP's may include measures in a and b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not- limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.	During construction	Daily, during construction	HWD	Retention of written/photographic documentation of all BMPs utilized and maintained throughout construction.	-
HYD-1e: (Conduct Site-Specific Hydrologic Investigation)					
A site-specific investigation shall be conducted for the project to determine the site-specific hydrological conditions, related potential impacts, and requirements. All applicable results and recommendations from this investigation shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to: drainage alteration, runoff rates/amounts, storm water management and hydromodification, and flood hazards. The final project design documents shall also encompass applicable standard design and construction practices from sources including NPDES (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigation will take priority over the more general types of standard regulatory/industry measures listed below. Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses	Prior to construction	-	HWD	-	-

Mitigation Monitoring and Reporting Program					
Mitigation Measures	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible. Runoff Rates/Amounts, Storm Water Management and Hydromodification: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts for design storm events, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable. Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/ containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and (4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA, as applicable.					

Appendix A. The California Emissions Estimator Model (CalEEMod) Output Files

Chet Harritt Pump Station Replacement Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Chet Harritt Pump Station Replacement
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	8.00
Location	32.856268658510885, -116.89589740317447
County	San Diego
City	Unincorporated
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6543
EDFZ	12
Electric Utility	—
Gas Utility	San Diego Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	5.00	User Defined Unit	1.50	5,127	1.10	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials
Construction	C-9	Use Dust Suppressants
Construction	C-10-B	Water Active Demolition Sites
Water	W-7	Adopt a Water Conservation Strategy

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.81	5.72	48.8	49.1	0.11	2.00	2.94	4.33	1.84	1.38	2.66	—	11,993	11,993	0.49	0.11	1.24	12,039
Mit.	6.81	5.72	48.8	49.1	0.11	2.00	2.94	4.33	1.84	1.38	2.66	—	11,993	11,993	0.49	0.11	1.24	12,039
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	10.6	95.7	91.0	0.18	4.17	3.01	7.19	3.84	1.38	5.15	—	19,503	19,503	0.80	0.19	0.07	19,579
Mit.	12.2	10.6	95.7	91.0	0.18	4.17	3.01	7.18	3.84	1.38	5.15	—	19,503	19,503	0.80	0.19	0.07	19,579
% Reduced	—	—	—	—	—	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.25	3.62	29.8	30.4	0.07	1.22	0.61	1.44	1.12	0.28	1.18	—	7,416	7,416	0.30	0.07	0.38	7,444
Mit.	4.25	3.62	29.8	30.4	0.07	1.22	0.61	1.43	1.12	0.28	1.18	—	7,416	7,416	0.30	0.07	0.38	7,444
% Reduced	—	—	—	—	—	—	—	< 0.5%	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.77	0.66	5.45	5.55	0.01	0.22	0.11	0.26	0.20	0.05	0.22	—	1,228	1,228	0.05	0.01	0.06	1,232
Mit.	0.77	0.66	5.45	5.55	0.01	0.22	0.11	0.26	0.20	0.05	0.21	—	1,228	1,228	0.05	0.01	0.06	1,232
% Reduced	—	—	—	—	—	—	< 0.5%	< 0.5%	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	75.0	250	550	250	—	—	100	—	—	55.0	—	0.00	—	—	—	—	—
Unmit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	Yes	—	—	—	—	—
Mit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	Yes	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	75.0	250	550	250	—	—	100	—	—	55.0	—	0.00	—	—	—	—	—
Unmit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	Yes	—	—	—	—	—
Mit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	Yes	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	13.7	13.7	40.0	100	40.0	—	—	15.0	—	—	10.0	—	—	—	—	—	—	2,500
Unmit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	—	—	—	—	—	No

Mit.	No	No	No	No	No	Yes	Yes	No	Yes	—	No	—	—	—	—	—	—	No

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.06	2.90	12.3	7.24	0.01	0.40	0.00	0.40	0.41	0.00	0.41	0.00	1,410	1,410	0.06	0.01	0.00	1,414
Mit.	3.06	2.90	12.3	7.24	0.01	0.40	0.00	0.40	0.41	0.00	0.41	0.00	1,410	1,410	0.06	0.01	0.00	1,414
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.02	2.87	12.3	7.01	0.01	0.40	0.00	0.40	0.40	0.00	0.40	0.00	1,409	1,409	0.06	0.01	0.00	1,414
Mit.	3.02	2.87	12.3	7.01	0.01	0.40	0.00	0.40	0.40	0.00	0.40	0.00	1,409	1,409	0.06	0.01	0.00	1,414
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.51	1.69	1.07	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	0.00	195	195	0.01	< 0.005	0.00	195
Mit.	0.43	0.51	1.69	1.07	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	0.00	195	195	0.01	< 0.005	0.00	195
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.09	0.31	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	32.2	32.2	< 0.005	< 0.005	0.00	32.4
Mit.	0.08	0.09	0.31	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	32.2	32.2	< 0.005	< 0.005	0.00	32.4

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	13.7	13.7	40.0	100	40.0	—	—	15.0	—	—	10.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	No	Yes	No	No	Yes	—	No	—	—	—	—	—	—	—

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	3	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	5	0	0	N/A
Flooding	0	0	0	N/A
Drought	5	0	0	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	5	3	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	3	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	5	1	1	4
Flooding	1	1	1	2
Drought	2	1	2	2
Snowpack	N/A	N/A	N/A	N/A
Air Quality	5	3	1	5

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	15.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

Appendix B. Biological Evaluation Documentation (Biological Constraints Report, Coastal California Gnatcatcher Survey Report and Aquatic Resources Delineation Report)

LOHSTROH BIOLOGICAL CONSULTING
Phone: (858) 750-9300~Email: brian@lohstrohbio.com

February 17, 2023

Matthew Prather
Black & Veatch
10995 Gold Center Drive
Suite 100
Rancho Cordova, CA 95670

Subject: Biological Constraints Report for the Chet Harritt Pump Station, Lake Jennings Aeration System and Clearwell Tank Effluent Flow Meter Project, San Diego County, California.

Dear Mr. Prather:

Lohstroh Biological Consulting (LBC) has completed this biological constraints report in conjunction with Black & Veatch for the Helix Water District's Chet Harritt Pump Station, Lake Jennings Aeration System and Clearwell Effluent Flow Meter Project (Project) in San Diego County, California. The project would accommodate facility connections with the East County Advanced Water Purification Program (East County AWP), as described below. The purpose of this constraints report is to discuss the existing biological conditions based on surveys completed in 2022 and to provide an assessment of potential impacts to sensitive biological resources in relation to implementation of the Project with respect to local, state, and federal policy. LBC has revised and updated this report with new information obtained since earlier submitted versions dated July 18, 2022 and August 5, 2022.

The Project site is located within the unincorporated community of Lakeside within the County of San Diego, California along the western shoreline of Lake Jennings (Figures 1 and 2). The 89-acre Project study area includes 500-foot buffers from proposed pipeline alignments and associated staging and work areas. The Project is within the El Cajon U.S. Geological Survey (USGS) 7.5-minute quadrangle map and the study area includes the following assessor's parcel numbers (APN): 3951521000, 3951600600, 3951303800, 3953001500, 3951303000, 3951303900, 3951304000, and 3951400100.

Project Purpose and Need

The Helix Water District plans to participate in and receive product water from the East County AWP. The East County AWP is a collaborative effort among Padre Dam Municipal Water District, the City of El Cajon, the County of San Diego, and Helix Water District. The East County AWP will create a new, sustainable and drought-proof drinking water supply using state-of-the-art technology to purify locally sourced recycled water. To accommodate this program, Helix Water District proposes the following improvements to its facilities: replacement of the current Chet Harritt Pump Station (circa 1970) with a new pump station; implementation of an aeration system within Lake Jennings; and installation of an effluent flow meter for the existing 5.3 million gallon-capacity Clearwell Tank. As the effluent flow meter installation would not result in impacts to biological resources, this report focuses on the pump station and aeration system improvements. These Project components also include installation of an electrical duct bank between an electrical vault east of the Clearwell Tank and the new pump station, air supply pipelines between the pump station and Lake Jennings, removal of an existing air compressor and air supply piping on the east side of the dam, enhancements to the existing dam seepage

weir, and replacement of the dam weir sump near the pump station. It should be noted that the implementation of the aeration system within Lake Jennings was analyzed in the 2018 IS/MND as part of the East County AWP project (Padre Dam Municipal Water District 2018).

Methods

This assessment focused on determining the existing vegetation communities present on the property, the presence of sensitive biological resources such as special status species or their habitat, sensitive vegetation communities, and wetlands/waters potentially jurisdictional to the regulating agencies. Focused surveys for coastal California gnatcatcher (*Polioptila californica californica*; CAGN) were conducted during the breeding season as part of this assessment and a large portion of the study area exists within designated critical habitat (DCH) for CAGN (USFWS 2007). With the exception of an aquatic resources delineation conducted in the Fall of 2022 (LBC 2023), no other focused biological surveys were conducted as part of this assessment.

LBC conducted a desktop analysis prior to visiting the study area, which included review of aerial photographs, topographic maps, the California Natural Diversity Database (CNDDB, Figure 3), U.S. Fish and Wildlife Service (USFWS) critical habitat (Figure 4) and the USFWS National Wetlands Inventory. The study area was then surveyed on foot by LBC Principal Biologist Brian Lohstroh over the course of three visits in conjunction with the CAGN surveys that occurred April 15-29, 2022. Meandering transects were walked throughout the study area to search for special status species, assess habitat for special status species and map vegetation communities. Vegetation communities were mapped according to Oberbauer *et al.* 2008. Vegetation mapped in the field was then imported to ArcGIS software and overlaid on a current aerial image to create a map of existing vegetation (included on Figure 4). Plant and wildlife species observed within the study area were recorded and suitable habitat for special status species and/or other sensitive biological resources, if present, were also documented. Wildlife species were identified by direct observation, vocalization, or by the presence of sign (tracks, scat, feathers, *etc.*).

Regulatory Framework

The Project will be subject to the following regulations, discussed below. Conformance with all regulations, state, local and federal, is the responsibility of the Project applicant.

Federal Regulations

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. ESA regulates the “taking” of any endangered fish or wildlife species, per Section 9 of the Act. As development is proposed, the responsible agency or individual landowner is required to consult with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts to listed species (including plants) or its critical habitat, pursuant to Sections 7 and 10 of the Act. USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the

federal ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 of the act provides for permitting of federal projects.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S. Code [U.S.C.] 703 *et seq*.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 CFR 10.13. The MBTA is enforced by USFWS and prohibits "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. A common way to avoid incidental take of migratory birds or their nests is to perform vegetation clearing or grubbing outside of the avian breeding season, which is typically from early February through the end of August. If work must occur during the breeding season, a preconstruction nesting bird survey will be conducted by a qualified biologist and no work shall be pursued that would violate the Migratory Bird Treaty Act.

Bald and Golden Eagle Protection Act

Bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), which was passed in 1940 to protect the bald eagle and amended in 1962 to include the golden eagle (16 U.S.C. § 668a-d). The BGEPA (16 U.S.C. § 668-668d) prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The BGEPA prohibits any form of possession or take of either eagle species and imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. Regarding its prohibitions on possession, the statute exempts the use of eagles or eagle parts for exhibition, scientific, and Native American religious uses.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 prohibits discharge of any material into navigable waters, or tributaries thereof, of the United States without a permit. The act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, or channel; or to dam navigable streams without a permit. Many activities originally covered by the Rivers and Harbors Act are now regulated under the Clean Water Act of 1972, discussed below. The 1899 Act retains relevance and created the structure under which the U.S. Army Corps of Engineers (USACE) oversees Clean Water Act 404 permitting.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the 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 CFR 328.3. USACE, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. Though CWA is a federal regulation, the state Regional Water

Quality Control Board (RWQCB), a division of the State Water Resources Control Board, provides oversight of the 401 permit process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits.

State Regulations

California Environmental Quality Act

The California Environmental Quality Act (CEQA) generally requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible. Courts have interpreted CEQA to afford the fullest protection of the environment within the reasonable scope of the statutes. CEQA applies to all discretionary projects proposed to be conducted or approved by a California public agency, including private projects requiring discretionary government approval.

California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. The California Department of Fish and Wildlife (CDFW) is responsible for assessing development projects for their potential to impact listed species and their habitats. Impacts on state-listed species may be permitted through issuance of a 2081 Memorandum of Understanding.

In 1991, the California Natural Community Conservation Planning Act (NCCP) was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. California law (Section 2800 *et seq.* of the California Fish and Game Code [CFGC]) established the NCCP program "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Act encourages preparation of subarea plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Fish and Game Code Sections 1600-1602

The California Fish and Game Code (CFGC Division 2, Chapter 6, Section 1602) regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. CFGC 1600-1602 activities are regulated by CDFW, and a Lake or Streambed Alteration Agreement Application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider.

CDFW reviews the proposed actions and, if necessary, submits a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 *et seq*.) provides for statewide coordination of water quality regulations. The state Water Resources Control Board was established as the statewide authority for the Act, and nine separate RWQCBs were developed to oversee water quality.

The RWQCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the California Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

California Fish and Game Code (§3503)

Under California Fish and Game Code (§3503) it is unlawful to “take, possess, or needlessly destroy” avian nests or eggs. The California Fish and Game Code defines “take” for purposes of its statutes as “to hunt, pursue, catch, capture, kill, or attempt to hunt, pursue, catch, capture, or kill.” (§ 86). California courts have held that take includes incidental take and is not limited to hunting and fishing and other activities that are specifically intended to kill protected fish and wildlife.

Designated Critical Habitat

As part of listing species under the ESA, areas essential to that species’ conservation are identified as designated critical habitat (DCH) by the USFWS. Critical habitat does not prevent all development or other activities that occur in a designated area, but only activities that involve a federal permit (*e.g.,* CWA section 404 permit), license, or funding, and are likely to destroy or adversely modify critical habitat will be affected. In such cases, the USFWS works with the agency and landowners to amend the project to enable it to proceed without adversely affecting critical habitat.

California Gnatcatcher

USFWS DCH for CAGN exists within the study area as shown on Figure 4. Consultation with the USFWS is required under Section 7 of the ESA if the Project involves federal permitting or authorization.

Existing Conditions

The study area includes shallow to moderately steep vegetated slopes and ridgelines associated with Lake Jennings and its earthen dam. Lake Jennings is a drinking water reservoir

completed in 1964 owned and operated by the Helix Water District, which provides water to the cities of El Cajon, La Mesa, Lemon Grove and unincorporated area of the County of San Diego. The Helix Water District's R.M. Levy Water Treatment Plant is present in the southwestern corner of the study area, the Harold Ball Pump Station and Chet Harritt Pump Station are present at the base of the dam to the north of the plant, and the Lake Jennings Campground is present along the northwestern edge of the study area (Figure 2). Elevation above mean sea level within the Project study area ranges from approximately 785 feet in the extreme northern portion of the study area, to approximately 510 feet below the dam in the western portion of the study area. The reservoir surface level is designed to operate at approximately 700 feet above mean sea level.

A CNNDB records search of special status species is provided on Figure 3, and existing biological resources are provided on Figure 4. Special status plant and wildlife species with potential to occur within the study area is provided in Table 1 and 2, respectively. Lists of floral and faunal species observed during the site visit are provided Table 3 and 4, respectively.

Vegetation Communities (definitions per Oberbauer *et al*. 2008)

Coast Live Oak Woodland

This woodland community is dominated by coast live oak (*Quercus agrifolia*), an evergreen oak that reaches 10-25 meters in height. The shrub layer is often poorly developed and the herb component is typically dominated by non-native grasses. A small area of coast live oak woodland consisting of relatively young trees exists near the western extent of the study area and is likely a restored area.

Developed Lands

Developed lands are present primarily in the western and southern portions of the study area, and include industrial development (water treatment plant, *etc*.) and associated infrastructure, such as paved and unpaved roadways, driveways, sidewalks and parking areas. Barren areas included with developed lands are characterized as areas that are devoid of vegetation, often result from chronic disturbance, such as vehicle use.

Diegan Coastal Sage Scrub (Various Subtypes)

Diegan coastal sage scrub is comprised of low, soft-woody subshrubs to about 3 ft high, many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species in this vegetation type may vary, depending on local site factors and levels of disturbance.

Large areas of Diegan coastal sage scrub occur throughout the Project area, and this habitat is dominated by California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), San Diego sunflower (*Bahiopsis laciniata*) and coast prickly pear (*Opuntia littoralis*). Other common constituents include African fountain grass (*Cenchrus setaceus*), broom Baccharis (*Baccharis sarothroides*), California Encelia (*Encelia californica*), short-pod mustard (*Hirschfeldia incana*), and other non-native grasses (*Bromus* spp., *Avena* spp.).

Near the western extent of the study area and possibly indicative of a history of disturbance in this area, a patch of native broom Baccharis have become established. This species often

recolonizes areas after disturbance (Oberbauer *et al.* 2008) and is mapped as Diegan coastal sage scrub-Baccharis dominated onsite. This vegetation community is characterized by almost monotypic stands of broom Baccharis, with an understory of non-native short-pod mustard and non-native grasses.

Disturbed Diegan coastal sage scrub is usually indicative of some kind of disturbance event, such as wildfire or mechanical manipulation from which the habitat is recovering. Onsite, this habitat is interspersed and adjacent to the areas of undisturbed Diegan coastal sage scrub. This vegetation community supports many of the constituents noted above, but they are more sparsely distributed. There is also a high incidence of non-native grasses and weedy species like short-pod mustard.

Diegan Coastal Sage Scrub-Chaparral

This mixed community includes both drought-deciduous sage scrub species and woody chaparral species, and is typically a post-fire successional community often observed in mesic situations. This vegetation community can be found in the southern portion of the study area and is dominated by California sagebrush, southern monkeyflower (*Diplacus australis*), white sage (*Salvia apiana*), golden yarrow (*Eriophyllum confertiflorum*), laurel sumac and poison oak (*Toxicodendron diversilobum*).

Disturbed Habitat

Disturbed habitat is a land cover type characterized by a predominance of non-native species, often introduced and established through human action. Oberbauer *et al.* (2008) describes disturbed land as areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association but continues to retain a soil substrate. Typically, vegetation, if present, is nearly exclusively composed of non-native plant species.

Onsite, disturbed habitat is associated with the spillway and around the pump station at the base of the dam. Species present include sparse non-native grasses and short-pod mustard.

Eucalyptus Woodland

Eucalyptus woodland is typically characterized by dense stands of gum trees (*Eucalyptus* spp.). Plants in this genus, imported primarily from Australia, were originally planted in groves throughout many regions of coastal California as a potential source of lumber and building materials, for their use as windbreaks, and for their horticultural novelty. They have increased their cover through natural regeneration, particularly in moist areas sheltered from strong coastal winds. Gum trees naturalize readily in the state where they form dense stands and tend to completely supplant native vegetation. Very few native plants are compatible with eucalyptus.

Onsite, small stands of eucalyptus woodland are present along the lakeshore fringe in the eastern portion of the study area and associated with the campground in the north portion of the study area.

Freshwater Marsh

Freshwater Marsh is dominated by perennial, emergent monocots 4 to 5 meters tall. Uniform stands of bulrushes (*Schoenoplectus* spp.) or cattails (*Typha* spp.) often characterize this habitat. Freshwater marsh occurs in wetlands that are permanently flooded by standing fresh

water. Dominated by cattails, narrow strands of this vegetation community are present onsite along the lakeshore fringe.

Non-native Grassland

Non-native grassland generally occurs on fine-textured loam or clay soils which are moist or 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 non-native annual forbs (Oberbauer *et al.* 2008). This habitat is a disturbance-related community most often found in old fields or openings in native scrub habitats. Within the study area, species present include red brome (*Bromus rubens*), wild oats (*Avena barbata, A. fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*) and the occasional native purple needle grass (*Stipa pulchra*).

Open Water

Open water is an area of submerged aquatic communities supporting minimal vegetative cover (less than 10 percent) and occurs within lakes, streams, ponds, and rivers. Open water areas within the study area are associated with Lake Jennings.

Ornamental

Ornamental plantings, also described as non-native vegetation (Oberbauer *et al.* 2008), includes trees, shrubs, and annual species that are not native to California. Ornamental vegetation is generally characterized by plant species placed by humans in areas to provide some function, such as decorative landscaping or shade to developed areas. Ornamental species can also become naturalized in areas and encroach into native habitats. Ornamental plantings within the study area largely consist of Canary Island pine trees (*Pinus canariensis*), Peruvian pepper trees (*Schinus molle*), golden wattle (*Acacia longifolia*), Mexican palo verde (*Parkinsonia aculeata*), and olive trees (*Olea europaea*), among others. Ornamental plantings are present within the study area are generally associated with the developed areas and buildings in the western and southern portions of the site.

Southern Willow Scrub

Southern willow scrub includes areas dominated by small trees or shrubs and are common along stream banks and drainages within canyon bottoms and floodplains. This vegetation community is found scattered along the lakeshore fringe onsite and is generally composed of black willows (*Salix gooddingii*).

Wildlife

Wildlife species observed within the study area included over fifty avian species, three reptile species and two mammal species. Lake Jennings can account for the relatively high diversity of avian species in the study area, which attracts numerous aquatic and non-aquatic species. Species observed ranged from the relatively common mallard (*Anas platyrhynchos*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), California Thrasher (*Toxostoma redivivum*), northern mockingbird (*Mimus polyglottos*), and California towhee (*Melozone crissalis*), to the less typically observed American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). Reptiles observed included Great Basin fence lizard (*Sceloporus occidentalis longipes*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and southern Pacific rattlesnake (*Crotalus oreganus helleri*). Mammals

observed included California ground squirrel (*Otospermophilus beecheyi*), and desert cottontail (*Sylvilagus audubonii*). A complete list faunal species observed is attached in Table 4.

Special Status Species

Special Status Plants

No federal or California-listed Threatened or Endangered plant species were observed within the study area. One special status plant was observed within the study area: San Diego sunflower (*Bahiopsis laciniata*), which was commonly observed throughout the site within the Diegan coastal sage scrub vegetation community. This species is a shrub in the Aster Family with bright yellow flowers and bright green foliage that is found in coastal southern California and Baja California. This species has a California Rare Plant Rank (CRPR) of 4.3 (CNPS 2022, Green *et al.* 2016); List 4 indicates that it is a plant of limited distribution, intended as a watch list and the ".3" indicates that it is not very endangered in California.

Results of the CNDDB search of the site vicinity are provided on Figure 3, and special status plants with the potential to occur in the Project vicinity are evaluated in Table 1.

Special Status Wildlife

Results of the CNDDB search of the site vicinity is provided on Figure 3. Special status wildlife species with the potential to occur within the Project vicinity are evaluated in Table 2, and key special status wildlife species that were observed onsite are discussed below. Observed species such as Watch List species as well as transient avian species that are afforded nesting or nesting colony protection (*e.g.,* American white pelican, double-crested cormorant), are not discussed here (see Table 2).

California Gnatcatcher

CAGN is a federal-listed Threatened species and a California Species of Special Concern (SSC). The CAGN is a small, resident, non-migratory passerine that typically prefers coastal sage scrub dominated by California sagebrush (Atwood 1980, 1990; Mock and Jones 1990), and may use Baccharis-dominated Diegan coastal sage scrub as marginal foraging habitat (Campbell *et al*. 1998). Breeding typically occurs between February and August. A large portion of the study area is DCH (USFWS 2007) for CAGN (Figure 4).

USFWS protocol surveys for this species were performed in April 2022 (LBC 2022) and the survey determined that this species does occupy some areas of Diegan coastal sage scrub within the study area. The results are summarized below.

Two male CAGN were observed within the survey area, each associated with two separate territorial/use areas (Figure 4). One solitary CAGN male was detected inhabiting the slopes northwest of the water treatment plant within the SDG&E right-of-way, and ranged north to the slopes dominated by coast prickly pear just south of Lake Jennings Park Road. No female was observed in association with this male, which was quite vocal and very responsive to the playback of the recorded vocalization, following the surveyor over large distances. A passive survey approach during follow-up visits indicated that this individual tended to reside on the northeast-facing slopes northwest of the water treatment plant, as indicated on Figure 4. This individual was observed on April 15, 22 and 29, 2022.

A second male CAGN was observed inhabiting the hills southwest of the water treatment plant. This male was less vocal and appeared to be based in habitat areas that are contiguous, but primarily outside of the study area. This individual was heard calling within this contiguous habitat, and only moved into the survey area when prompted by the recorded vocalization. After investigating the source of the recorded vocalization for a few minutes, this CAGN retreated to the contiguous suitable habitat outside of the Project study area in the southwest. Although it was never observed to be associated with a female, the paired and reproductive status of this individual is unknown because the bulk of its territory is offsite. This individual was observed on April 15, 22 and 29, 2022.

A ridgeline provides a natural separation between this CAGN's territory and the territory of the solitary male to the north. No CAGN were observed in the northern portion of the survey area near the campground, or in the southern extent of the survey area, south of the dam.

Coastal Cactus Wren

The coastal (or San Diego) cactus wren (SSC) is a medium-sized, resident passerine species found in the coastal lowlands of San Diego and Orange Counties that requires dense stands of cholla and/or prickly pear cactus where they build their nests. Coastal cactus wrens are well-studied in the region, with the Lake Jennings area supporting a significant population (Lynn and Kus 2021, Nature Conservancy 2015). At least seven coastal cactus wren territories were observed within the study area during the survey visits where they were associated with dense stands of coast prickly pear. Observations included solitary calling individuals, pairs, and nest locations.

Raptors

Raptor nesting tends to occur earlier than the typical avian breeding season, with nests starting as early as January. They also tend to be more sensitive to human encroachment when nesting. Raptor species including bald eagle (California listed as Endangered [CA-E] and California Fully Protected Species [FP]), Cooper's Hawk (*Accipiter cooperii;* California Watch List Species [WL]), red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) were observed within the study area during the survey visits. Nesting habitat for these species also exists within the study area, although no nests were directly observed. The non-native grassland and other open scrub habitat within the study area also provides foraging habitat for these species. No nesting habitat for golden eagle (*Aquila chrysaetos*; FP, WL) exists within the study area, but this species may occasionally use the area for foraging.

Aquatic Resources

For a detailed discussion and complete mapping of the aquatic resources potentially present within the study area, please refer to the Aquatic Resources Delineation Report (ARDR) for this Project (LBC 2023). A generalized discussion of these aquatic resources is provided below and shown on Figure 4.

Lake Jennings is considered a jurisdictional "Waters of the United States" by the current definition (EPA 2022). The open water and unvegetated areas below the ordinary high water mark (OHWM) of Lake Jennings would therefore be considered non-wetland waters and much of the vegetated areas along the immediate lakeshore fringe of Lake Jennings would be considered wetland waters jurisdictional to the USACE, RWQCB, and CDFW.

Additional potentially jurisdictional streambeds observed within the study area are briefly discussed below. An ephemeral drainage with an OHWM flows from the spillway of the dam, flows under Lake Jennings Park Road via culverts, enters a culvert on the north side of the pump station and exits the site to the west via a series of culverts. A second relatively permanent water flows from a dam seepage outlet and into a weir near the base of the dam. These two streambeds are likely to be considered non-wetland waters potentially jurisdictional to the USACE, RWQCB, and CDFW. Lastly, an earthen-lined channel with a discontinuous OHWM conveys runoff from the treatment plant, flowing from a culvert outlet near the northwest corner of the water treatment plant and down a hill to the northeast. This channel is a potential Waters of the State jurisdictional to CDFW and RWQCB. None of the above drainages support riparian vegetation and therefore would not be considered USACE-jurisdictional wetland waters.

A non-jurisdictional swale is present from the base of the dam and feeds into the third ephemeral drainage in the western portion of the study area. This swale does not support an OHWM or other indicators of hydrology. In addition, no riparian or hydrophytic vegetation is associated with this swale. See the ARDR for a discussion of additional non-jurisdictional swales within the study area.

Impact Assessment

This section analyzes the impacts based on the current design to biological resources from construction of the proposed Project. Impacts are defined as activities that destroy, damage, alter, or otherwise negatively affect biological resources in a project area. Permanent impacts result in the irreversible loss of biological resources, such as the permanent removal of vegetation or habitat through placement of a concrete foundation or a paved road. Temporary impacts are reversible with the implementation of mitigation measures, such as short-term noise events associated with a project's operations, or the revegetation of an area cleared during temporary construction activities.

Along with the included design features described below, mitigation recommendations (MRs) are identified in the section below to address and minimize impacts to biological resources.

Direct Impacts

Direct impacts occur when biological resources are altered, disturbed, destroyed, or removed during the course of project implementation. Direct impacts may include direct losses of habitat, potential jurisdictional waters, wetlands, special-status species, and diverting natural surface water flows. Direct impacts are those that involve ground disturbance and loss of the original ground cover due to grading, construction, and maneuvering or staging.

Direct impacts will result from construction activities, including pipeline installation, grading activities (*e.g.,* creation of temporary work areas), maneuvering or staging of equipment, and pump station construction. The Project was designed to avoid or minimize impacts on sensitive resources to the greatest extent feasible by using existing developed areas for staging and minimizing construction-related work areas and access routes in native habitat. The Project has gone through multiple design iterations, which has resulted in the relocation of proposed pipelines. As such, some temporary and permanent impacts will result from Project activities. The impact footprint of Project features including the pump station, pipeline routes, staging areas and other features are shown on Figure 5. Acreage of Project impacts broken out by temporary and permanent impacts are provided in Table 5.

Indirect Impacts

Indirect impacts are secondary effects related to direct ground disturbance, such as dust, noise, ground vibration, and visual disturbance. Examples include pollination interruption, increased environmental toxins, increased invasion and competition by non-native animals and plants, and increased noise, human activity, and light levels.

It is anticipated that there will be indirect impacts resulting from the Project based on its proximity to sensitive habitat and sensitive species. Potential indirect impacts are described below. For each of the indirect impacts, specific Project design features and mitigation recommendations (MRs) are identified to ensure that these potential indirect impacts are minimized.

Runoff, Erosion, and Sediment Transport

Erosion and siltation resulting from the proposed Project are potential indirect impacts because of the proximity of the proposed work area to water features and other sensitive habitats. Erosion from grading and excavation activities can remove topsoil necessary for plant growth both in the impact areas and areas downstream and/or downslope that are affected by increased runoff. The eroded soil can be deposited as silt and alluvium in drainages and Lake Jennings, negatively affecting water quality. Siltation can damage wetlands and aquatic habitats and bury vegetation or topsoil.

Appropriate erosion and stormwater pollution prevention measures would be implemented and monitored on a regular basis as part of the project. The Project will comply with the Construction General Permit during construction and an effective SWPPP will be developed and implemented that prescribes appropriate best management practices (BMPs) to avoid or limit runoff, erosion, and sediment transport. Biological monitoring (see MR-3, below) will also verify that preventative measures are in place and functioning properly.

Noise And Human Presence

Indirect and temporary impacts to wildlife movement due to construction noise, including presence of humans, will be expected during construction of the Project. Noise can adversely affect wildlife by frightening or repelling individuals, masking communication, and impairing foraging and/or nesting success and predator detection. These effects can adversely affect the lifecycle of sensitive species or constrain wildlife movement through a wildlife corridor; however, these impacts will not be considered adverse if the activities were temporary in nature and of short duration.

Indirect construction noise has the potential to impact sensitive wildlife known to occur within the Project vicinity, or that have a high potential to occur onsite, including sage scrub nesters such as CAGN, coastal cactus wren and southern California rufous crowned sparrow. The current threshold for adverse noise impacts on these species is generally accepted to be 60 decibels during the breeding season, although some species, are known to be tolerant of higher noise levels and intense bursts of noise from traffic or trains. If construction were to occur outside of the breeding season for these species, noise impacts will not be considered adverse. Indirect noise impacts to other nesting migratory birds, including raptors, if present, are not necessarily adverse because of the temporary nature of the impacts, and the varying levels of sensitivity of individual species of birds.

The Project is not expected to have a substantial indirect effect on sensitive biological resources from increased noise and human presence; however, periodic biological monitoring and installation of temporary construction fencing (see MR-3 below) will minimize these impacts that may result from the Project. In addition, all construction staging areas will be located outside of sensitive areas to the extent feasible.

Lighting

If nighttime work is required for the Project, construction lighting may penetrate wildlife habitat within or adjacent to the Project study area and could temporarily impact sensitive wildlife species including the movement of nocturnal species. These temporary impacts can be avoided if nighttime work did not occur near sensitive areas or where nocturnal species could be affected. However, if nighttime work is required within or adjacent to these areas, prior survey results, pre-construction surveys and daily biological sweeps would provide additional information to determine if any wildlife species are present that could be potentially affected. In addition, all Project lighting will be temporary, shielded and directed away from wildlife habitat.

Toxins

Toxic substances can kill wildlife and plants or prevent new growth where soils or water are contaminated. Toxic substances can be released into the environment through several scenarios including planned or accidental releases, leaching from stored materials, pesticide or herbicide use, or fires, among others. No intentional releases of toxic substances are planned as part of the Project, however accidental releases could occur from several sources such as leaking equipment or fuel spills during the course of construction.

Spill prevention measures should be implemented as part of the Project, including providing secondary containment on all foreign liquids and pollutants placed within the construction area. Fueling should be avoided within 100 feet of aquatic resources. Drip pans should be used under all idle equipment. Spill kits should be onsite throughout duration of construction. A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction.

Fugitive Dust

Trenching, grading, and vehicle operations associated with the construction of the Project may produce fugitive dust. Excessive dust can damage or degrade vegetation by blocking leaf exposure to sunlight. Appropriate dust control measures would be implemented and monitored on a regular basis as part of the project. Project will comply Air Quality Management District rules and standards during construction. Dust control measures will include spraying work or driving areas with water and careful operation of equipment.

Wildlife Entrapment

During construction, open holes, trenches or excavations may entrap wildlife (*e.g.,* reptiles and small mammals). Implementation of mitigation recommendation MR-3, described below, will reduce the risk of wildlife entrapment that may result from the Project.

Invasive Species

The Project footprint currently supports many invasive and non-native plant species (see Table 3). Invasive species out-compete native species, suppress native recruitment, alter community structure, degrade or eliminate habitat for native wildlife, and provide food and cover for undesirable non-native wildlife. The introduction of invasive and some non-native plant species into a community can increase the competition for resources such as water, minerals, and nutrients between native and non-native species as well as alter the hydrology and sedimentation rates. In addition, if invasive and/or non-native plants are allowed to become established and dominate an area, they can cause a disruption in the natural fire regime, further decreasing any remaining native vegetation, and ultimately cause a habitat type conversion. The establishment of non-native weeds could also adversely affect habitat associated with special status species.

Invasive plant species are often introduced into a given area when they are inadvertently imported on vehicles and equipment brought onsite. The loss of topsoil from grading or as a result of erosion may also increase the likelihood of exotic plant establishment in native communities. Occasionally, invasive species are included in a landscape plan or established as ornamental plantings.

To avoid infestation of invasive weeds, all construction equipment and vehicles entering the site will be clean and weed-free. In addition, any on-site habitat restoration, revegetation or landscaping will have the plant pallets reviewed by a biologist to ensure that no invasive species are being introduced.

Project-related trash and food waste can also attract invasive, non-native or nuisance wildlife species such as rodents, racoons, coyotes and various bird species to a project site. These species can opportunistically prey on native wildlife or exclude native wildlife from crucial resources such as nest sites and food. To minimize these effects, all food and construction-related trash should be properly contained or removed from the site at the end of the day.

Cumulative Impacts

Cumulative impacts include both the potential regional (long-term, additive) effects of a project and the ways a project, in combination with other projects and conditions in a region, may affect an ecosystem or one of its components beyond the project limits and on a regional scale. With implementation of the mitigation recommendations described below, the Project would not result in an adverse impact on biological resources. As such, the Project would not result in cumulatively adverse biological impacts.

Mitigation Recommendations

Implementation of the following avoidance and minimization measures are intended to reduce and minimize direct and indirect impacts resulting from the Project.

California Gnatcatcher and General Avian Protection Recommendations

MR-1: As specified in the project Informal Section 7 Consultation, the following measures will be implemented to avoid and minimize indirect impacts to CAGN:

1. For temporary impacts to gnatcatcher habitat, the work site will be returned to preexisting contours, where feasible, and revegetated with appropriate local native species. Native hydroseed will be used to revegetate after construction is completed. The seed mix will be developed in coordination with a biologist familiar with the habitat constituents onsite. The application of hydroseed will be conducted under the supervision of the biologist.
2. The alignment of pipelines will be coordinated with a biologist familiar with the sensitivity of coastal sage scrub to minimize impacts to the habitat.
3. Impacts will be minimized through the timing of work in suitable CAGN habitat to avoid the breeding season (February 15 to August 30) for the species whenever possible. Areas of coastal sage scrub habitat to be directly impacted by construction shall be cleared or grubbed prior to the CAGN breeding season. If construction activities must commence during the breeding season, impacts will be minimized by conducting nest surveys within 300 feet of all proposed activities no more than seven days in advance of proposed work. If an active nest is encountered, no construction activities will be implemented within a minimum distance of 100 feet of the nest.
4. All construction areas adjacent to coastal sage scrub habitat will retain the boundary fencing between the construction area and the habitat or be temporarily fenced, if there is no existing fence, to prevent the expansion of the disturbance footprint. Any violations of the corridor will be documented and reported by the District.
5. Landscaping of construction areas will be conducted in a manner compatible with normal operational requirements of the Water Treatment Plant and Pump Station and designed to minimize erosion and weedy species invasion into adjacent coastal sage scrub.
6. Construction work areas will be watered as needed to control dust during work periods.

MR-2: To avoid direct impacts on breeding birds, including the coastal cactus wren, raptors, and/or other special status avian species, removal of vegetation within the proposed area of disturbance should occur outside of the breeding season for these species (January 15 through September 15). If the removal of vegetation within the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds within the proposed area of disturbance. The preconstruction survey shall be conducted within seven calendar days prior to the start of construction activities, including the removal of vegetation. If active nest(s) are detected, the biologist will determine an appropriate avoidance buffer and monitor the nest(s) during construction until no longer active. If construction must occur in proximity to the active nest(s), appropriate noise attenuation measures and a monitoring regimen shall be implemented.

General Construction BMP Recommendations

MR-3: The District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary orange construction fencing, which clearly delineates the edge of the approved limits of grading and clearing as well as the edges of environmentally sensitive areas, specifically Diegan coastal sage scrub and aquatic resources, adjacent to the project. The biological monitor will verify the project limits of work.

Full-time biological monitoring is required during all vegetation clearing, grubbing, and/or trimming and as needed during the remainder of construction activities. The District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. Monitoring shall include the inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. The biologist will also verify that project activities are in compliance with the project requirements and mitigation measures.

The qualified biologist will prepare and give a worker environmental awareness training to all on-site employees prior to the start of construction activities. New employees will be trained prior to the start of work on the site. The environmental awareness training will include a discussion of all sensitive resources that occur within the project limits and with the potential to be directly or indirectly impacted. The training will also discuss the required compliance with project design features, mitigation measures, and permit conditions.

Habitat Impact Mitigation Recommendations

MR-4: The District shall implement compensatory mitigation for impacts to sensitive habitat according to the ratios provided in the table below, unless otherwise conditioned in permits and/or discretionary approvals issued by the USFWS, USACE, RWQCB, and/or CDFW, as applicable.

Mitigation Ratios for Impacts to Sensitive Natural Communities

Sensitive Natural Community	Mitigation Ratio
Non-native grassland	0.5:1
Diegan coastal sage scrub	2:1
Freshwater marsh	3:1
Southern willow scrub	3:1
Open water	1:1

Sensitive vegetation communities that undergo temporary impacts should be restored following an approved restoration plan developed by a qualified

biologist. Mitigation for any permanent impacts within sensitive vegetation communities can be achieved through on-site habitat creation, restoration, enhancement and/or preservation, or through the purchase of mitigation credits at an agency-approved mitigation bank.

The District shall restore or revegetate temporary impact areas at a 1:1 ratio through the preparation and implementation of a restoration plan, which shall include the following, as prepared by a qualified biologist or restoration specialist, at a minimum:

- Location of the restoration site;
- Plant species to be used, container sizes, and seeding rates;
- Schematic depicting the restoration area;
- Planting schedule;
- Description of the irrigation methodology;
- Measures to control exotic vegetation on site;
- Specific success criteria;
- Monitoring program;
- Contingency measures should the success criteria not be met; and
- Identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

MR-5: If direct impacts to jurisdictional waters and/or wetlands cannot be avoided (*i.e.,* discharge of dredge or fill material, destruction of riparian habitat, modification of streambed or lake), the District shall complete the following:

- Prepare and submit a notification, as applicable, to the USACE for unavoidable impacts to Waters of the U.S. pursuant to the Clean Water Act Section 404;
- Prepare and submit a Clean Water Act Section 401 Request for Water Quality Certification or State Porter-Cologne Water Quality Control Act Report of Waste Discharge to the RWQCB for unavoidable impacts to Waters of the State; and
- Prepare and submit a CFG Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to jurisdictional streambed and riparian habitat.

The District shall implement compensatory mitigation at a minimum ratio of 1:1, which could be adjusted during permitting with the USACE, RWQCB, and CDFW, for unavoidable temporary and permanent impacts on jurisdictional waters and wetlands, which would include one or a combination of the following measures:

- Purchase of preservation, establishment, re-establishment, rehabilitation and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank or another approved mitigation bank in the region.
- Implement permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.
- Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a 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 providing for the conservation of the mitigation.
- A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

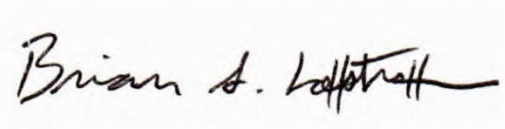
Conclusion

The proposed Project would incur direct impacts to native plant communities and aquatic resources. The Project will also incur indirect impacts to CAGN (noise, disturbance, loss of designated critical habitat). Mitigation recommendations and proposed design features have been provided for both direct and indirect impacts to biological resources, with emphasis on avoidance of take of CAGN and other special status avian species. Informal Section 7 consultation with USFWS has been completed (FWS-SD-2022-0074841, attached), and the mitigation and avoidance requirements set forth in that document are incorporated herein.

A USACE permit would be required to implement the Project because the Project would result in the discharge of dredge of fill material into a Waters of the United States. An ARDR has been completed for the Project, and the permitting process has been initiated. Relevant permits from USACE, CDFW and RWQCB would all be required.

If you have any questions about this assessment, please contact Mr. Lohstroh at 858.750.9300 or via the email indicated below.

Sincerely,



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Attachments:

Figure 1. Project Vicinity
Figure 2. Project Aerial and Study Area
Figure 3. CNDDB
Figure 4. Biological Resources
Figure 5. Project Impacts
Table 1. Potential for Occurrence: Special Status Plant Species
Table 2. Potential for Occurrence: Special Status Wildlife Species
Table 3. Floral Species List
Table 4. Faunal Species List
Table 5. Project Impacts and Mitigation
Representative Site Photographs
USFWS Informal Section 7 Consultation letter (FWS-SD-2022-0074841)

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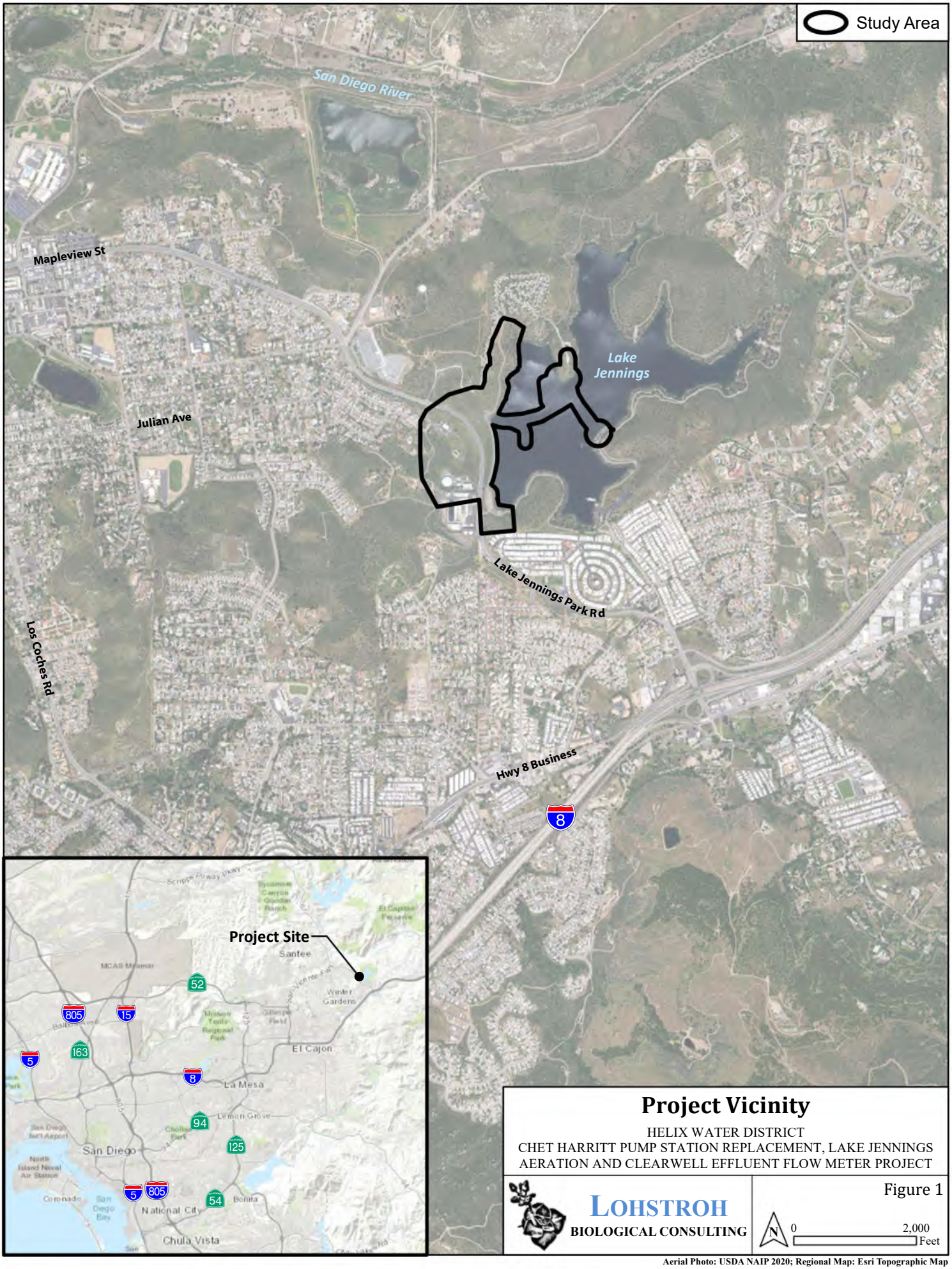


Project Vicinity

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 1

N 0 2,000 Feet

Aerial Photo: USDA NAIP 2020; Regional Map: Esri Topographic Map

Project Aerial and Study Area

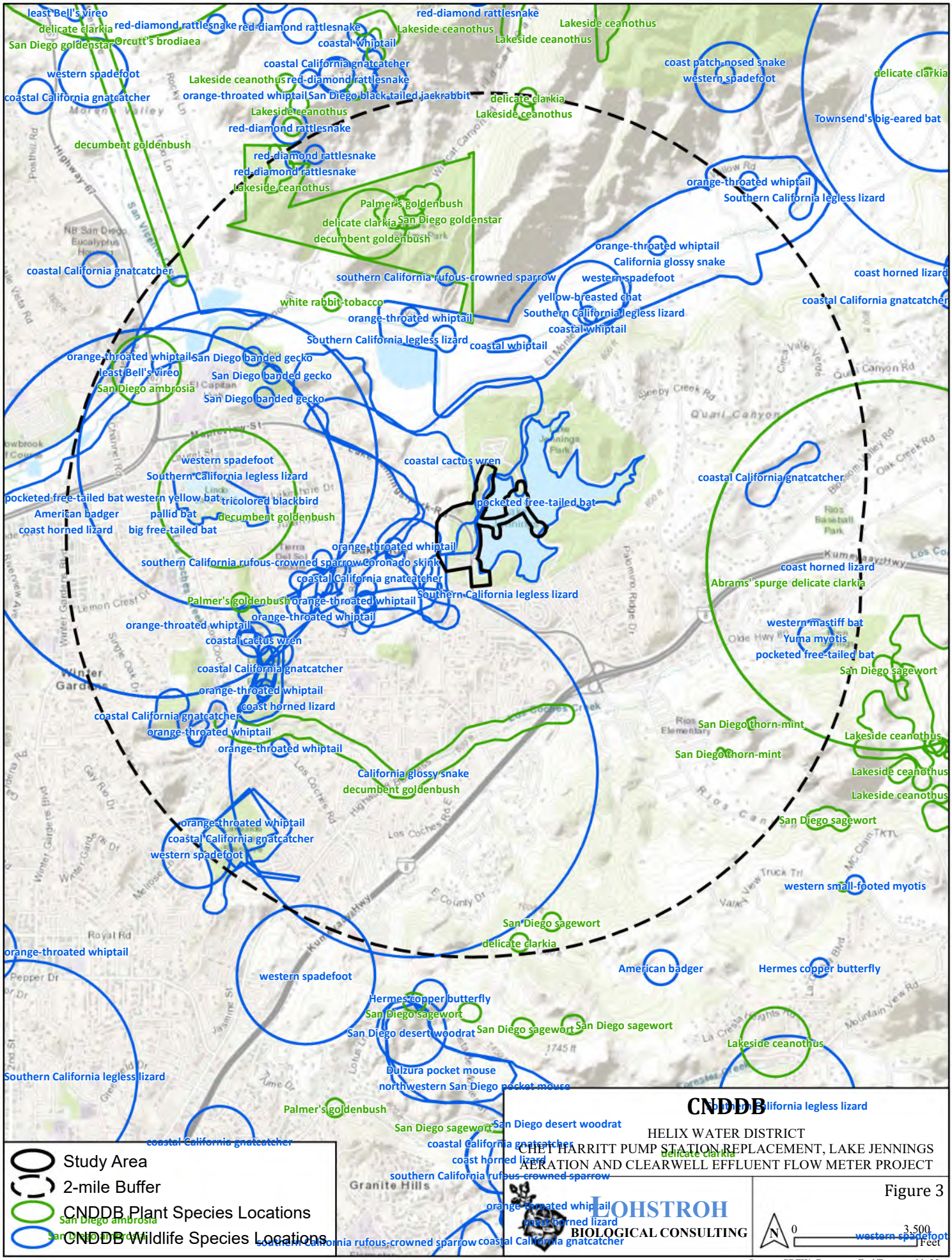
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 2

N 0 310 Feet

Aerial Photo: Nearmap 2021


least Bell's vireo
delicate clarkia
San Diego goldenstar
red-diamond rattlesnake
Orcutt's brodiaea
red-diamond rattlesnake
coastal whiptail
red-diamond rattlesnake
Lakeside ceanothus
Lakeside ceanothus
Lakeside ceanothus
coast patch-nosed snake
western spadefoot
delicate clarkia
western spadefoot
coastal California gnatcatcher
coastal California gnatcatcher
Lakeside ceanothus
red-diamond rattlesnake
orange-throated whiptail
San Diego black-tailed jackrabbit
delicate clarkia
Lakeside ceanothus
Lakeside ceanothus
red-diamond rattlesnake
Townsend's big-eared bat
decumbent goldenbush
red-diamond rattlesnake
red-diamond rattlesnake
Lakeside ceanothus
orange-throated whiptail
Southern California legless lizard
Palmer's goldenbush
San Diego goldenstar
delicate clarkia
decumbent goldenbush
orange-throated whiptail
California glossy snake
coastal California gnatcatcher
southern California rufous-crowned sparrow
western spadefoot
coast horned lizard
white rabbit-tobacco
yellow-breasted chat
Southern California legless lizard
coastal California gnatcatcher
orange-throated whiptail
coastal whiptail
Southern California legless lizard
coastal whiptail
orange-throated whiptail
San Diego banded gecko
least Bell's vireo
San Diego banded gecko
San Diego ambrosia
San Diego banded gecko
western spadefoot
coastal cactus wren
Southern California legless lizard
coastal California gnatcatcher
pocketed free-tailed bat
western yellow bat
tricolored blackbird
pocketed free-tailed bat
American badger
pallid bat
decumbent goldenbush
coast horned lizard
big free-tailed bat
orange-throated whiptail
southern California rufous-crowned sparrow
Coronado skink
coastal California gnatcatcher
coast horned lizard
Abrams' spurge
delicate clarkia
Palmer's goldenbush
orange-throated whiptail
Southern California legless lizard
orange-throated whiptail
orange-throated whiptail
western mastiff bat
Yuma myotis
coastal cactus wren
pocketed free-tailed bat
coastal California gnatcatcher
San Diego sagewort
orange-throated whiptail
coast horned lizard
coastal California gnatcatcher
San Diego thorn-mint
orange-throated whiptail
orange-throated whiptail
Lakeside ceanothus
San Diego thorn-mint
California glossy snake
decumbent goldenbush
Lakeside ceanothus
Lakeside ceanothus
San Diego sagewort
orange-throated whiptail
coastal California gnatcatcher
western spadefoot
western small-footed myotis
San Diego sagewort
delicate clarkia
orange-throated whiptail
American badger
Hermes copper butterfly
western spadefoot
Hermes copper butterfly
San Diego sagewort
San Diego desert woodrat
San Diego sagewort
San Diego sagewort
Lakeside ceanothus
Southern California legless lizard
Dulzura pocket mouse
northwestern San Diego pocket mouse
Palmer's goldenbush
Southern California legless lizard
San Diego desert woodrat
San Diego sagewort
coastal California gnatcatcher
delicate clarkia
coastal California gnatcatcher
coast horned lizard
southern California rufous-crowned sparrow
orange-throated whiptail
coast horned lizard
San Diego ambrosia
southern California rufous-crowned sparrow
coastal California gnatcatcher
western spadefoot
Study Area
2-mile Buffer
CNDDB Plant Species Locations
CNDDB Wildlife Species Locations
CNDDB
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT
LOHSTROH
BIOLOGICAL CONSULTING
Figure 3
N
0
3,500
Feet
Source: CDFW; Basemap: Esri Topographic Map

Study Area

Potential Aquatic Resources

- Culvert
- Spillway Outlet
- Ephemeral Streambed
- Spillway
- Swale
- Wetlands/Other Waters

Vegetation

- Southern Willow Scrub
- Freshwater Marsh
- Open Water
- Coast Live Oak Woodland
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Diegan Coastal Sage Scrub - Baccharis Dominated
- Diegan Coastal Sage Scrub - Chaparral
- Non-native Grassland
- Eucalyptus Woodland
- Ornamental
- Disturbed Habitat
- Developed

Special Status Species

- Coastal California Gnatcatcher Critical Habitat
- American White Pelican (SSC)
- Bald Eagle (SE, FP)
- Belding's Orange-throated Whiptail (WL)
- Coastal Cactus Wren (SSC)
- Coastal California Gnatcatcher (FT, SSC)
- Cooper's Hawk (WL)
- Double-crested Cormorant (WL)
- Osprey (WL)
- Southern California Rufous-crowned Sparrow (WL)

QCB Host Plants

- *Plantago erecta*

Biological Resources

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 4

N 0 240 Feet

Aerial Photo: Nearmap 2021

Study Area
Permanent Impacts
Temporary Impacts
Staging Area

Potential Aquatic Resources

Culvert
Spillway Outlet
Ephemeral Streambed
Spillway
Swale
Wetlands/Other Waters

Vegetation

Southern Willow Scrub
Freshwater Marsh
Open Water
Coast Live Oak Woodland
Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed
Diegan Coastal Sage Scrub - Baccharis Dominated
Diegan Coastal Sage Scrub - Chaparral
Non-native Grassland
Eucalyptus Woodland
Ornamental
Disturbed Habitat
Developed

Special Status Species

Coastal California Gnatcatcher Critical Habitat
American White Pelican (SSC)
Bald Eagle (SE, FP)
Belding's Orange-throated Whiptail (WL)
Coastal Cactus Wren (SSC)
Coastal California Gnatcatcher (FT, SSC)
Cooper's Hawk (WL)
Double-crested Cormorant (WL)
Osprey (WL)
Southern California Rufous-crowned Sparrow (WL)

QCB Host Plants

Plantago erecta

Bream Dr
Lake Jennings Park Rd
Bass Dr
Lake Jennings

Project Impacts

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

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BIOLOGICAL CONSULTING

Figure 5

N 0 240 Feet

Aerial Photo: Nearmap 2021

Table 1.
Potential for Occurrence: Special Status Plant Species
Chet Harritt Pump Station and Lake Jennings Aeration System Project

COMMON NAME	*SCIENTIFIC NAME*	STATUS	HABITAT ASSOCIATION	POTENTIAL TO OCCUR
San Diego Thorn-mint	*Acanthomintha ilicifolia*	FT, CA-E, CRPR 1B.1	Requires clay soils: vernal pools, depressions on mesas, chaparral slopes, coastal sage scrub, grasslands below 3300 feet in elevation.	Not Expected. Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records within 2 miles of study area.
California Adolphia	*Adolphia californica*	CRPR 2B.1	Coastal sage scrub and chaparral below 1300 ft in elevation, generally within 10 miles of coast in San Diego region.	Not Expected. Study area is east of typical range for this species, nearest records are over 5 miles away to the west and southwest. Would have been observed if present.
San Diego Ambrosia	*Ambrosia pumila*	FE, CRPR 1B.1	Requires open, unshaded habitat including disturbed areas, seasonally dry drainages, and floodplains below 2000 ft.	Low. Nearest records are over 3 miles away to the southwest. Not observed during site visits.
Dean's Milk-vetch	*Astragalus deanei*	CRPR 1B.1	Open shrubby slopes in chaparral between 805 ft and 2625 ft elevation; often proliferates in recently burned areas.	Not Expected. No suitable habitat present within study area, nearest records are over 5 miles to the east.
San Diego Goldenstar	*Bloomeria clevelandii*	CRPR 1B.1	Clay soils on dry mesas and hillsides in coastal sage scrub, chaparral or valley grassland below 1525 ft in elevation.	Low. Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records within 2 miles of study area.
Thread-leaved Brodiaea	*Brodiaea filifolia*	FT, CA-E, CRPR 1B.1	Clay soils in vernally moist grasslands and vernal pool periphery are typical locales.	Not Expected. No suitable habitat present within study area and no occurrences within 5 miles of study area.
Orcutt's Brodiaea	*Brodiaea orcuttii*	CRPR 1B.1	Associated with vernal pools and grassland areas near streams below 5,250 ft elevation; often associated with clay soils.	Not Expected. No suitable habitat present within study area. Small area of clay soils only present at northern tip of study area, would have been observed if present. Nearest records approximately 5 miles from study area.
Lakeside Ceanothus	*Ceanothus cyaneus*	CRPR 1B.1	Occurs in chaparral, most commonly found in the foothills between Lakeside and Ramona. Elevation: 150 ft-3450 ft	Not Expected. No suitable habitat present within the study area. Nearest records are over 1 mile away to the southwest.
Delicate Clarkia	*Clarkia delicata*	CRPR 1B.1	Foothill woodland and chaparral between 770 ft and 3280 ft in elevation.	Low. Marginal habitat present within study area, not observed during site visits. Nearest records are approximately 3 miles away to south.
Variegated Dudleya	*Dudleya variegata*	CRPR 1B.1	Clay soils dry hillsides, mesas within coastal sage scrub, foothill woodland, chaparral, and valley grassland in southwestern San Diego County; often associated with vernal pools. Elevation: < 985 ft	Low. Marginal habitat present within study area, nearest records are over 5 miles to the southwest.
Palmer's Goldenbush	*Ericameria palmeri* var. *palmeri*	CRPR 1B.1	Coastal sage scrub in southern San Diego County below 2000 ft in elevation.	Low. Suitable habitat present within study area, but would have been observed if present. Nearest records approximately 2 miles to the north.

Table 1.
Potential for Occurrence: Special Status Plant Species
Chet Harritt Pump Station and Lake Jennings Aeration System Project

COMMON NAME	*SCIENTIFIC NAME*	STATUS	HABITAT ASSOCIATION	POTENTIAL TO OCCUR
San Diego Barrel Cactus	*Ferocactus viridescens*	CRPR 2B.1	Dry, rocky slopes in coastal sage scrub, maritime succulent scrub and chaparral below 500 ft in elevation.	Low. Suitable habitat present within study area, but would have been observed if present. Nearest records approximately 4 miles to the southwest.
Decumbent Goldenbush	*Isocoma menziesii* var. *decumbens*	CRPR 1B.1	Grasslands, coastal sage scrub in sandy soils below 650 feet in elevation.	Low. Suitable habitat present within study area, but would have been observed if present. Nearest records within 2 miles of study area. Study area is at edge of elevational range.

Table 2.
Potential for Occurrence: Special Status Wildlife Species
Chet Harritt Pump Station and Lake Jennings Aeration System Project

COMMON NAME	*SCIENTIFIC NAME*	STATUS	HABITAT ASSOCIATION	POTENTIAL FOR OCCURRENCE
Invertebrates				
Quino checkerspot Butterfly	*Euphydryas editha quino*	FE	Open, dry areas in foothills and mesas where principal larval host plants dot-seed plantain, and secondary host plants woolly plantain, white snapdragon, thread-leaved bird's beak, and purple owl's clover occurs. Adult emergence mid-January to April.	Low. Hostplant observed within study area, but habitat is marginal. At edge of recommended survey area.
Hermes Copper Butterfly	*Lycaena hermes*	FT	Chaparral and coastal sage scrub where host plant spiny redberry occurs, especially in conjunction with California buckwheat. Adult emergence late May to July.	Not expected. Not host plant observed within study area.
Amphibians				
Arroyo Toad	*Anaxyrus californicus*	FE, SSC	Breeds in shallow pools along stream edges with sand/gravel flats between March and June. Adults use upland habitat within one mile of breeding sites. Non-breeding habitat includes sage scrub, mixed chaparral, and oak woodland habitats.	Not expected. No suitable breeding habitat within Project vicinity, no occurrences within 5 miles of study area.
Western Spadefoot	*Spea hammondii*	SSC	Found in lowland, foothill, and mountain habitats including washes, river floodplains, alluvial fans, playas, alkali flats, temporary ponds, vernal pools, mixed woodlands, grasslands, coastal sage scrub, and chaparral. Breeds in temporary pools and slow-moving sections of streams.	Low. No suitable breeding habitat observed within study area. May use uplands in study area to forage, but breeding habitat in vicinity of study area appears limited.
Reptiles				
Southern California Legless Lizard	*Anniella stebbinsi*	SSC	Found in leaf litter and loose soil on beaches and in coastal scrub, chaparral, and open riparian habitats. Sandy washes and beach dunes are used for burrowing, while logs and leaf litter are used for cover and feeding.	Low. Limited suitable habitat within study area.
California Glossy Snake	*Arizona elegans occidentalis*	SSC	Chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains and rocky hillsides.	Moderate. Some areas of Suitable habitat within study area, CNDDB records within 2 miles.
Belding's Orange-Throated Whiptail	*Aspidoscelis hyperythra*	WL	Open coastal sage scrub, chaparral, and streamside growth with loose sandy soils, revegetation sites.	Present. Observed within study area.
Coastal Whiptail	*Aspidoscelis tigris stejnegeri*	SSC	Found in a variety of habitats, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	High. Suitable habitat present within study area.
Red-diamond Rattlesnake	*Crotalus ruber*	SSC	Coastal sage scrub, open chaparral, woodland, grassland, and cultivated areas.	High. Suitable habitat present within study area.
Coast Horned Lizard	*Phrynosoma blainvillii*	SSC	Open chaparral, coastal sage scrub with sandy, loose soil. Partially dependent on harvester ants for forage.	High. Suitable habitat present within study area.
Coronado Skink	*Plestiodon skiltonianus interparietalis*	WL	Associated with mesic areas: grasslands, open woodlands and forest, broken chaparral, rocky habitats near streams.	Moderate. Some areas of Suitable habitat within study area.

Table 2.
Potential for Occurrence: Special Status Wildlife Species
Chet Harritt Pump Station and Lake Jennings Aeration System Project

COMMON NAME	*SCIENTIFIC NAME*	STATUS	HABITAT ASSOCIATION	POTENTIAL FOR OCCURRENCE
Coast Patch-nosed Snake	*Salvadora hexalepis virgultea*	SSC	Chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains and rocky hillsides.	Moderate. Some areas of Suitable habitat within study area.
Two-striped Gartersnake	*Thamnophis hammondii*	SSC	Permanent fresh water, inhabiting streams, ponds, vernal pools. Occupies adjacent coastal sage scrub and grasslands during the winter.	Moderate. Some areas of Suitable habitat within study area.
Birds				
Cooper's Hawk (nesting)	*Accipiter cooperii*	WL	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	Present. Observed within study area, suitable nesting habitat present within study area, but no nests observed.
Tricolored Blackbird (nesting colony)	*Agelaius tricolor*	CA-T, SSC	Freshwater marshes agricultural areas, lakeshores, parks. Localized resident. Breeding colonies well documented, inland San Diego County	Not expected. Some suitable habitat, but no known nesting colony within study area.
Southern California Rufous-crowned Sparrow	*Aimophila ruficeps canescens*	WL	Coastal sage scrub, chaparral, grassland. Resident.	Present. Observed within study area.
Grasshopper Sparrow (nesting)	*Ammodramus savannarum*	SSC	Tall grass areas. Localized summer resident, rare in winter.	Low. Marginal habitat within study area.
Golden Eagle (nesting and wintering)	*Aquila chrysaetos*	FP; WL	Require vast foraging areas in grassland, broken chaparral, or sage scrub. Nest in cliffs and boulders. In the county, wintering range does not differ greatly from breeding distribution. Uncommon resident.	Low. May occasionally forage within study area, but no nesting habitat present.
Coastal Cactus Wren	*Campylorhynchus brunneicapillus sandiegensis*	SSC	Maritime succulent scrub, coastal sage scrub with Opuntia thickets. Rare localized resident.	Present. Observed within study area.
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	FE, CA-E	Breeding range in southwestern United States. Nests in relatively dense riparian vegetation where surface water is present, or soil moisture is high enough to maintain the appropriate vegetation characteristics.	Not expected. No suitable breeding habitat present.
Bald Eagle (nesting and wintering)	*Haliaeetus leucocephalus*	CA-E, FP	Rivers, lakes. Feed mainly on fish.	Present. Observed within study area, known to winter in area.
Yellow-breasted Chat	*Icteria virens*	SSC	Dense riparian woodland. Localized summer resident.	Not expected. No suitable habitat present within study area.
Osprey (nesting)	*Pandion haliaetus*	WL	Coast, lowland lakes, rarely foothills and mountain lakes. Uncommon fall/winter resident, rare in spring and summer. Fish are the primary prey item.	Present. Individual observed within study area and may nest nearby.
American White Pelican (nesting colony)	*Pelecanus erythrorhynchos*	SSC	Lagoons, bays, estuaries, freshwater ponds; inland lakes during spring migration. Migrant and winter visitor.	Present. Individuals observed within Project vicinity, but nesting not observed and unlikely.

Table 2.
Potential for Occurrence: Special Status Wildlife Species
Chet Harritt Pump Station and Lake Jennings Aeration System Project

COMMON NAME	*SCIENTIFIC NAME*	STATUS	HABITAT ASSOCIATION	POTENTIAL FOR OCCURRENCE
Double-crested Cormorant (nesting colony)	*Phalacrocorax auritus*	WL	Bays, lagoons, estuaries.	Present. Individuals observed within Project vicinity, but nesting not observed and unlikely.
Coastal California Gnatcatcher	*Polioptila californica californica*	FT, SSC	Coastal sage scrub, maritime succulent scrub. Resident.	Present. Observed within study area.
Least Bell's Vireo (nesting)	*Vireo bellii pusillus*	FE, CA-E	Willow-dominated successional woodland or scrub, Baccharis scrub, mixed oak/willow woodland, and elderberry scrub in riparian habitat. Nests and forages in vegetation along streams and rivers that measures approximately 3 to 6 feet in height and has a dense, stratified canopy.	Not expected. No suitable nesting habitat present within study area.
Mammals				
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	SSC	Dense chamise-redshank & montane chaparral, coastal sage scrub, sagebrush, annual grassland, probably most attracted to interface of grassland and brush.	Moderate. Some areas of Suitable habitat within study area.
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	SSC	San Diego County west of mountains in sparse, disturbed coastal sage scrub or grasslands with sandy soils.	High. Suitable habitat present within study area.
Townsend's Big-eared Bat	*Corynorhinus townsendii*	SSC	Caves, mines, buildings. Found in a variety of habitats, arid and mesic. Individual or colonial. Extremely sensitive to disturbance.	Low. Limited suitable habitat within study area, most areas disturbed.
Western Mastiff Bat	*Eumops perotis californicus*	SSC	Woodlands, rocky habitat, arid and semiarid lowlands, cliffs, crevices, buildings, tree hollows.	Low. Limited suitable habitat within study area.
Western Yellow Bat	*Lasiurus xanthinus*	SSC	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees.	Low. Limited suitable habitat within study area.
San Diego Black-tailed Jackrabbit	*Lepus californicus bennettii*	SSC	Open areas of scrub, grasslands, agricultural fields.	Low. Marginal habitat within study area, not observed during site visits.
San Diego Desert Woodrat	*Neotoma lepida intermedia*	SSC	Coastal sage scrub and chaparral.	Moderate. Some areas of Suitable habitat within study area.
Pocketed Free-tailed Bat	*Nyctinomops femorosaccus*	SSC	Pinyon-juniper woodlands, desert scrub, desert riparian, Joshua tree, and palm oasis. Prefers rock crevices in cliffs as roosting sites.	Moderate. Limited roosting sites within study area, but CNDDB records exist at Lake Jennings.
Big Free-tailed Bat	*Nyctinomops macrotis*	SSC	Rugged, rocky terrain. Roost in crevices, buildings, caves, tree holes. Very rare in San Diego County. Colonial, Migratory.	Low. Limited suitable habitat within study area.
American Badger	*Taxidea taxus*	SSC	Grasslands, savannas, meadows, sparse scrublands with friable soils. Requires lots of undeveloped open space for it's home range.	Not expected. No suitable habitat within study area.

Table 3. Floral Species List
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Family	*Scientific Name*	Common Name	Status	VCO*
Eudicots				
ADOXACEAE				
	Sambucus nigra ssp. *caerulea*	Blue Elderberry	native	CSS, CSS-CHAP
ANACARDIACEAE				
	Malosma laurina	Laurel Sumac	native	CSS, CSS-CHAP
	Schinus molle	Peruvian Pepper Tree	invasive	ORN
	Toxicodendron diversilobum	Western Poison-Oak	native	CSS-CHAP
APIACEAE				
	Daucus pusillus	Rattlesnake Weed	native	CSS, NNG
ASTERACEAE				
	Artemisia californica	Coastal Sagebrush	native	CSS
	Baccharis sarothroides	Broom Baccharis	native	CSS, CSS-BD
	Bahiopsis laciniata (CRPR 4.3)	San Diego Sunflower	native	CSS
	Bebbia juncea var. *aspera*	Rush Sweetbush	native	CSS
	Brickellia californica	California Brickellbush	native	CSS
	Centaurea melitensis	Tocalote	invasive	CSS, NNG
	Cirsium vulgare	Bull Thistle	invasive	NNG
	Deinandra fasciculata	Fascicled Tarweed	native	CSS, NNG, DH
	Encelia californica	California Encelia	native	CSS
	Encelia farinosa var. *farinosa*	Brittlebush, Incienso	native	CSS
	Erigeron canadensis	Horseweed	native	CSS, NNG, DH
	Eriophyllum confertiflorum var. *confertiflorum*	Long-Stem Golden-Yarrow	native	CSS, CSS-CHAP
	Glebionis coronaria	Garland/Crown Daisy	invasive	NNG, DH
	Gutierrezia californica	California Matchweed	native	CSS
	Hypochaeris glabra	Smooth Cat's Ear	invasive	CSS, NNG
	Lasthenia gracilis	Common Goldfields	native	NNG
	Logfia gallica	Narrow-Leaf Cottonrose	native	CSS
	Pseudognaphalium californicum	California Everlasting	native	CSS
	Silybum marianum	Milk Thistle	invasive	NNG, DH
	Sonchus oleraceus	Common Sow-Thistle	non-native	NNG, DH
BORAGINACEAE				
	Amsinckia intermedia	Rancher's Fiddleneck	native	NNG, DH
	Phacelia cicutaria var. *hispida*	Caterpillar Phacelia	native	CSS
BRASSICACEAE				
	Hirschfeldia incana	Short-Pod Mustard	invasive	CSS, NNG, DH
	Raphanus sativus	Wild Radish	invasive	NNG, DH
CACTACEAE				
	Opuntia littoralis	Coast Prickly-Pear	native	CSS
CARYOPHYLLACEAE				
	Cerastium glomeratum	Mouse-Ear Chickweed	non-native	CSS, NNG
	Herniaria hirsuta var. *cinerea*	Gray Herniaria	non-native	DH
	Silene gallica	Common Catchfly	non-native	CSS, NNG

Table 3. Floral Species List
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Family	*Scientific Name*	Common Name	Status	VCO*
CHENOPODIACEAE				
	Chenopodium californicum	California Goosefoot	native	NNG, DH
	Salsola tragus	Prickly Russian-Thistle	invasive	NNG, DH
CONVOLVULACEAE				
	Calystegia macrostegia ssp. *cyclostegia*	Coast Morning-Glory	native	NNG
CRASSULACEAE				
	Dudleya pulverulenta	Chalk Dudleya	native	CSS
CUCURBITACEAE				
	Marah macrocarpa	Wild-Cucumber	native	CSS
EUPHORBIACEAE				
	Euphorbia albomarginata	White-Margin Sandmat	native	CSS, NNG, DH
	Euphorbia peplus	Petty Spurge	non-native	NNG, DH
FABACEAE				
	Acacia longifolia	Golden Wattle	non-native	ORN
	Acmispon americanus var. *americanus*	Spanish-Clover	native	CSS, NNG
	Acmispon glaber var. *brevialatus*	Short-Wing Deerweed	native	CSS
	Lupinus succulentus	Arroyo Lupine	native	CSS, NNG
	Melilotus indicus	Indian Sweetclover	non-native	CSS, NNG, DH
	Parkinsonia aculeata	Mexican Palo Verde	non-native	ORN
	Vicia villosa ssp. *villosa*	Winter Vetch	non-native	NNG
FAGACEAE				
	Quercus agrifolia	Coast Live Oak	native	CLOW
GERANIACEAE				
	Erodium botrys	Long-Beak Filaree	invasive	CSS, NNG, DH
	Erodium cicutarium	Red-Stem Filaree	invasive	CSS, NNG, DH
HYDROPHYLLACEAE				
	Eucrypta chrysanthemifolia var. *chrysanthemifolia*	Common Eucrypta	native	CSS
LAMIACEAE				
	Salvia apiana	White Sage	native	CSS, CSS-CHAP
	Salvia mellifera	Black Sage	native	CSS
MONTIACEAE				
	Claytonia perfoliata ssp. *perfoliata*	Miner's-Lettuce	native	CSS, NNG
MYRSINACEAE				
	Anagallis arvensis	Scarlet Pimpernel	non-native	CSS, NNG, DH
MYRTACEAE				
	Eucalyptus globulus	Blue Gum	invasive	EW, ORN
NYCTAGINACEAE				
	Mirabilis laevis var. *crassifolia*	Coastal Wishbone Plant	native	CSS
OLEACEAE				
	Olea europaea	Olive	invasive	ORN
ONAGRACEAE				
	Clarkia epilobioides	White Clarkia	native	CSS, NNG

Table 3. Floral Species List
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Family	*Scientific Name*	Common Name	Status	VCO*
	Eulobus californicus	False-Mustard	native	CSS, NNG
PAPAVERACEAE				
	Eschscholzia californica	California Poppy	native	CSS, NNG
PHRYMACEAE				
	Diplacus australis	San Diego Monkey Flower	native	CSS, CSS-CHAP
	Diplacus puniceus	Coast Monkey Flower	native	CSS, CSS-CHAP
PLANTAGINACEAE				
	Collinsia heterophylla var. *heterophylla*	Chinese Houses	native	NNG
	Plantago erecta	Dot-Seed Plantain	native	CSS, DH
POLYGONACEAE				
	Eriogonum fasciculatum var. *fasciculatum*	Coast California Buckwheat	native	CSS
	Eriogonum fasciculatum var. *foliolosum*	Inland California Buckwheat	native	CSS
RUBIACEAE				
	Galium aparine	Common Bedstraw	native	CSS
SALICACEAE				
	Salix gooddingii	Goodding's Black Willow	native	SWS
SOLANACEAE				
	Datura wrightii	Western Jimson Weed	native	CSS, NNG
	Solanum americanum	White Nightshade	native	CSS, NNG
URTICACEAE				
	Urtica urens	Dwarf Nettle	non-native	CSS, NNG
Monocots				
AGAVACEAE				
	Hesperoyucca whipplei	Chaparral Candle	native	CSS
POACEAE				
	Avena barbata	Slender Wild Oat	invasive	NNG, CSS, DH
	Avena fatua	Wild Oat	invasive	NNG, CSS, DH
	Bromus diandrus	Ripgut Grass	invasive	NNG, CSS, DH
	Bromus hordeaceus	Soft Chess	invasive	NNG, CSS, DH
	Bromus rubens	Red Brome	invasive	NNG, CSS, DH
	Cenchrus setaceus	African Fountain Grass	invasive	NNG, CSS, DH
	Lamarckia aurea	Golden-Top	non-native	NNG, CSS, DH
	Muhlenbergia microsperma	Little-Seed Muhly	native	CSS
	Schismus barbatus	Mediterranean Schismus	invasive	NNG, CSS, DH
	Stipa pulchra	Purple Needle Grass	native	NNG
THEMIDACEAE				
	Bloomeria crocea var. *crocea*	Common Goldenstar	native	CSS, NNG
	Dichelostemma capitatum ssp. *capitatum*	Blue Dicks	native	CSS, NNG
TYPHACEAE				
	Typha latifolia	Broad-Leaf Cattail	native	FWM
Conifers				
PINACEAE				
	Pinus canariensis	Canary Island Pine	non-native	ORN

Table 3. Floral Species List
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Family	*Scientific Name*	Common Name	Status	VCO*
Pteridophytes				
PTERIDACEAE				
	Pentagramma triangularis ssp. *triangularis*	California Goldback Fern	native	CSS

CRPR=California Rare Plant Rank; 4.3: Plants of limited distribution; not very threatened in California.
*VCO=Vegetation Community Observed onsite; CSS=Diegan Coastal Sage Scrub; CSS-CHAP=Coastal Sage Scrub - Chaparral; ORN=Ornamental; NNG=Non-Native Grassland; CSS-BD=Coastal Sage Scrub-Baccharis Dominated; CLOW=Coast Live Oak Woodland; DH=Disturbed Habitat; EW=Eucalyptus Woodland

Table 4. Wildlife Species List
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Common Name	*Scientific Name*
Birds	
Canada Goose	*Branta canadensis*
Mallard	*Anas platyrhynchos*
California Quail	*Callipepla californica*
Mourning Dove	*Zenaida macroura*
White-throated Swift	*Aeronautes saxatalis*
Anna's Hummingbird	*Calypte anna*
Costa's Hummingbird	*Calypte costae*
Selasphorus Hummingbird	*Selasphorus sp.*
American Coot	*Fulica americana*
Killdeer	*Charadrius vociferus*
Western Sandpiper	*Calidris mauri*
Double-crested Cormorant (WL)	*Phalacrocorax auritus*
American White Pelican (SSC)	*Pelecanus erythrorhynchos*
Great Blue Heron	*Ardea herodias*
Snowy Egret	*Egretta thula*
Turkey Vulture	*Cathartes aura*
Osprey (WL)	*Pandion haliaetus*
Bald Eagle (SE, FP)	*Haliaeetus leucocephalus*
Cooper's Hawk (WL)	*Accipiter cooperii*
Red-tailed Hawk	*Buteo jamaicensis*
American Kestrel	*Falco sparverius*
Black Phoebe	*Sayornis nigricans*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Cassin's Kingbird	*Tyrannus vociferans*
Warbling Vireo	*Vireo gilvus*
California Scrub-Jay	*Aphelocoma californica*
American Crow	*Corvus brachyrhynchos*
Tree Swallow	*Tachycineta bicolor*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Cliff Swallow	*Petrochelidon pyrrhonota*
Bushtit	*Psaltriparus minimus*
Rock Wren	*Salpinctes obsoletus*
Bewick's Wren	*Thryomanes bewickii*
Coastal Cactus Wren (SSC)	*Campylorhynchus brunneicapillus sandiegensis*
California Gnatcatcher (FT, SSC)	*Polioptila californica*
Ruby-crowned Kinglet	*Regulus calendula*
Wrentit	*Chamaea fasciata*
California Thrasher	*Toxostoma redivivum*
Northern Mockingbird	*Mimus polyglottos*
House Sparrow*	*Passer domesticus*
House Finch	*Haemorhous mexicanus*
Lesser Goldfinch	*Spinus psaltria*
Common Yellowthroat	*Geothlypis trichas*
Wilson's Warbler	*Cardellina pusilla*
Spotted Towhee	*Pipilo maculatus*
So. Cal. Rufous-crowned Sparrow (WL)	*Aimophila ruficeps canescens*
California Towhee	*Melozone crissalis*
Song Sparrow	*Melospiza melodia*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Red-winged Blackbird	*Agelaius phoeniceus*
Great-tailed Grackle	*Quiscalus mexicanus*
Hooded Oriole	*Icterus cucullatus*
Reptiles	
Belding's Orange-throated Whiptail (WL)	*Aspidoscelis hyperythra beldingi*
Great Basin Fence Lizard	*Sceloporus occidentalis longipes*
Southern Pacific Rattlesnake	*Crotalus oreganus helleri*
Mammals	
California Ground Squirrel	*Ostospermophilus beecheyi*
Desert Cottontail	Sylvilagus audubonii

SSC: California Species of Special Concern
WL: California Watch List Species
SE: California listed as Endangered
FP: California Fully Protected Species
FT: Federally listed as Threatened
*Introduced species

Table 5. Project Impacts and Mitigation
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Vegetation	Survey Area	Permanent Impacts	Mitigation Ratio	Mitigation Acreage for Permanent Impacts	Temporary Impacts (1:1 Mitigation*)
Coast Live Oak Woodland	0.015	-	-	-	-
Developed	15.882	0.039	-	-	2.126
Diegan Coastal Sage Scrub	27.916	-	-	-	*0.422
Diegan Coastal Sage Scrub - Baccharis Dominated	0.396	-	-	-	-
Diegan Coastal Sage Scrub - Chaparral	0.772	-	-	-	-
Diegan Coastal Sage Scrub - Disturbed	9.550	0.018	2:1	0.036	*1.304
Disturbed Habitat	3.037	0.115	-	-	1.020
Eucalyptus Woodland	1.244	0.009	-	-	0.161
Freshwater Marsh	0.501	0.006	3:1	0.017	*0.044
Non-native Grassland	8.924	0.026	0.5:1	0.013	*1.061
Open Water	18.447	0.073	1:1	0.073	0.103
Ornamental	1.907	-	-	-	0.062
Southern Willow Scrub	0.229	0.0002	3:1	0.001	*0.041
TOTAL (acres)	**88.818**	**0.286**	**-**	**0.140**	**6.346**

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 1. View facing south from north end of dam. Solitary CAGN male observed in habitat area at right, within sunlight. Water treatment plant at upper left, pump stations at lower right.

Photo 2. View facing north from area west of water treatment plant. Chet Harritt Pump Station is visible at center (facility with shade structure over three pumps) and adjacent area to right it is where the new pump station is proposed. Dam is at right.

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 3. View facing east along Diegan coastal sage scrub patch just north of pump stations. Three pairs of coastal cactus wrens occupied this area. Dam is in background.

Photo 4. View facing southwest along optional loop line route in northern portion of study area. An old access road is present here, supporting recovering Diegan coastal sage scrub. No CAGN were observed using this area.

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 5. View facing southwest at non-native grassland and eucalyptus trees associated with campground in northern portion of study area.

Photo 6. Coastal cactus wren pair near northern boundary of study area.

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 7. Solitary male California gnatcatcher observed in western portion of study area.

Photo 8. View facing south of mesic coastal sage scrub-chaparral habitat in southern portion of study area. Dense laurel sumac, southern monkeyflower, poison oak and white sage occupy this area.

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo. 9 View facing northeast from west side water treatment plant. The Clearwell tank is visible at right, and the air supply pipeline alignment is visible along left side of the dam in background.

Photo 10. View facing northeast of spillway inlet at north end of dam. Lake Jennings is at right and air supply pipeline alignment would enter lake by the eucalyptus trees in background.

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 11. View facing southwest of downstream terminus of ephemeral streambed located on slope north of water treatment plant. This drainage feature conveys runoff from the water treatment plant.

Photo 12. View facing southwest from outlet of spillway. An ephemeral streambed conveys flow from the spillway outlet downslope towards the pump stations (culvert conveys flow under road).

Representative Site Photographs
Chet Harritt Pump Station and Lake Jennings Aeration System Project

Photo 13. View facing northwest along swale and dam weir structure at base of dam. Sump is visible in foreground, with pump stations visible in background at right.

Photo 14. View facing south of culvert and debris guard near western boundary of study area. These culverts convey flow outside of the study area.

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer to:
FWS-SD-2022-0074841

August 22, 2022
Sent Electronically

Ashley Longrie
U.S. Environmental Protection Agency
Office of Wastewater Management
Water Infrastructure Finance and Innovation Act Management Division
1200 Pennsylvania Avenue Northwest
Washington, D.C. 20460

Subject: Informal Section 7 Consultation for the Helix Water District's Drinking Water Reliability Project, Unincorporated San Diego County, California (Project Code 2022-0021611 and 2022-0021469)

Dear Ashley Longrie:

On June 23, 2022, we received your letter requesting our concurrence that the proposed Helix Water District's (the District/Applicant) Drinking Water Reliability Project (Project) is not likely to adversely affect the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) or the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher) or its designated critical habitat. Your agency proposes to provide partial funding to the Applicant; furthermore, following a Microsoft Teams conversation on August 9, 2022, we received your revised biological analysis with the same conclusions on the same date. Our evaluation is based on information provided with your concurrence request, including the *Bio Constraints Report for the Chet Harris Pump Station, Lake Jennings Aeration System and Clearwell Tank Effluent Flow Meter Project, San Diego County, California*, prepared by Lohstroh Biological Consulting, and dated July 18, 2022, and other information in our files. A complete project file is maintained at the Carlsbad Fish and Wildlife Office (CFWO).

The project site is within the unincorporated community of Lakeside, San Diego County, California, along the western shoreline of the Lake Jennings reservoir. The project includes six specific features: (1) construction of the Chet Harris Pump Station, (2) installation of an effluent meter at the R.M. Levy Water Treatment Plant, (3) installation of an aeration system at Lake Jennings, (4) construction of an outlet tower at Lake Jennings, (5) cast-iron pipeline replacement, and (6) replacement of the Johnstown Pump Station. Of these features, only the Chat Harris Pump Station, effluent meter at the R.M. Levy Water Treatment Plant, and the aeration system have potential to affect listed species.

The Chet Harris Pump Station and effluent meter at the R.M Levy Water Treatment Plant will impact small areas, 0.028 and 0.021 acre respectively, of disturbed vegetation adjacent to actively used infrastructure. The aeration system will temporarily displace low quality gnatcatcher habitat along a footprint of 3-feet-wide by 900-feet-long (0.027 acre). The aeration system will be buried underground and the project footprint will be revegetated similar to existing conditions. To avoid and minimize indirect impacts to the gnatcatcher, the following measures will be adhered to:

1. For temporary impacts to gnatcatcher habitat, the work site will be returned to preexisting contours, where feasible, and revegetated with appropriate local native species. Native hydroseed will be used to revegetate after construction is completed. The seed mix will be developed in coordination with a biologist familiar with the sensitivity of sage scrub to minimize impacts to the habitat. The application of hydroseed will be conducted under the supervision of the biologist.

2. The alignment of pipelines will be coordinated with a biologist familiar with the sensitivity of sage scrub to minimize impacts to the habitat.

3. Impacts will be minimized through timing of work in suitable gnatcatcher habitat to avoid the breeding season (February 15 – August 30) for the species whenever possible. For areas of coastal sage scrub habitat to be directly impacted by construction, brush clearing, and removal shall be conducted prior to the breeding season. If construction activities must commence during the breeding season, impacts will be minimized through conducting nest surveys within 300 feet of all proposed activities. If active nests are encountered, no construction activities will be implemented within a minimum distance of 100 feet of the nest.

4. All construction areas adjacent to sage scrub habitat will retain the boundary fencing between the construction area and the habitat or be temporarily fenced, if there is no existing fence, to prevent expansion of the disturbance footprint. Any violations of the corridor will be documented and reported by the District.

5. Landscaping of construction areas will be conducted in a manner compatible with normal operational requirements of the Water Treatment Plant and Pump Station and designed to minimize erosion and weedy species invasion into adjacent coastal sage scrub.

6. Construction work areas will be watered to control dust during work periods.

Quino are found in a variety of vegetation types including coastal sage scrub and rely on specific larval host plants. Dot-seed plantain (*Plantago erecta*) is the primary larval host plant for Quino in the vicinity of the project. Three small patches of dot-seed plantain were observed near the project site, but these plants are not sufficient to support a viable Quino population, and no Quino have been observed within approximately 5 miles of the project site. Therefore, we do not expect that Quino are present within the project site. Overall, the likelihood that the project will impact Quino is discountable in that it is extremely unlikely to occur.

Two male gnatcatchers, likely representing separate territories, were observed within approximately 200 to 300 feet of specific project features during surveys in April, 2022. A total of 0.076 acre of impacts, including 0.049 acre of temporary impacts, are proposed within gnatcatcher habitat. Permanent impact areas within gnatcatcher habitat are highly degraded by routine vegetation clearance surrounding active work areas, and the temporary impacts proposed for the aeration pipelines will be within degraded habitat dominated by non-native vegetation. Although this habitat is degraded, it is within designated gnatcatcher critical habitat and has physical and biological features of critical habitat. However, the proposed impacts are small in relation to the approximately 36 acres of higher quality habitat supporting the gnatcatchers near the project site. This small loss of habitat will not affect the ability of gnatcatchers to breed, feed, or shelter. Indirect impacts from noise, dust, and visual disturbance have potential to affect gnatcatcher breeding success, but with the conservation measures proposed, including avoidance of construction during the breeding season, indirect impacts will be minimized. Overall, the direct and indirect impacts to the gnatcatcher and its designated critical habitat will be insignificant in that it will not be possible to meaningfully measure, detect, or evaluate the effects. Therefore, based on the information provided, we concur with your determination that the proposed action is not likely to adversely affect the Quino, gnatcatcher, or gnatcatcher critical habitat. The interagency consultation requirements of Section 7 of the Act have been satisfied.

This completes our informal consultation; however, obligations under section 7 of the Act should be reconsidered if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (2) this action is subsequently modified in a manner that was not considered, or (3) a new species is listed or critical habitat designated that may be affected by the action. If you should have any questions pertaining to this letter, please contact Eric Porter[1] of this office at 760-431-9440, extension 285.

Sincerely,

for Jonathan D. Snyder
Assistant Field Supervisor

[1] eric_porter@fws.gov

Phone: (858) 750-9300 ~ Email: brian@lohstrohbio.com

M[illegible] 2[illegible] 2022

[illegible]
R[illegible]
[illegible]
[illegible]
2[illegible] 2[illegible]0[illegible]
[illegible] 200[illegible]

Subject: **Coastal California Gnatcatcher 45-Day Summary Report for the Chet Harritt Pump Station and Lake Jennings Aeration System Project, Lakeside, California. Permit #TE063608-6**

D[illegible] M[illegible]

[illegible] (*Polioptila californica californica*) [illegible] 2022 [illegible]

[illegible] D[illegible]

[illegible] 2[illegible] 6[illegible] 00 [illegible] M[illegible] D[illegible] 3[illegible] 200[illegible] 0 [illegible] 36 [illegible] 3 [illegible] D[illegible]

[illegible] D[illegible]

[illegible] D[illegible] 3 [illegible] (*Artemisia californica*) [illegible] (*Malosma laurina*) [illegible] (*Eriogonum fasciculatum*) [illegible] D[illegible] (*Bahiopsis laciniata*) [illegible] (*Baccharis sarothroides*) [illegible] (*Opuntia littoralis*) [illegible] (*Acmispon glaber*) [illegible] (*Encelia californica*) [illegible] (*Encelia farinosa*) [illegible] (*Pennisetum setaceum*) [illegible] (*Hirschfeldia incana*) [illegible] (*Centaurea melitensis*) [illegible] (*Bromus* [illegible], *Avena* [illegible]

[illegible] (*Diplacus australis*) [illegible] (*Salvia apiana*) [illegible] (*Eriophyllum confertiflorum*) [illegible] (*Toxicodendron diversilobum*) [illegible]

Methods

[illegible]

Table 1. Survey Dates and Conditions

Survey	Date	Time	Temperature (˚F)	Cloud Cover	Wind (MPH)	Personnel
[illegible]	[illegible]4/[illegible]/22	0600–[illegible]200	[illegible]0˚–[illegible]0˚	0–[illegible]0 [illegible]	0–4 [illegible]2–4	[illegible]
[illegible]2	4/22/22	0[illegible]30–[illegible]4[illegible]	[illegible]˚–6[illegible]˚	[illegible]0 [illegible]	3–[illegible]0–2[illegible]	[illegible]
[illegible]3	4/2[illegible]/22	0[illegible]00–[illegible]4[illegible]	[illegible]2˚–6[illegible]˚	20–[illegible]0 [illegible]	0–[illegible]3–6[illegible]	[illegible]

Results

[illegible]

[illegible] CAGN's territory and the solitary male's to the north.

[illegible] (*Campylorhynchus brunneicapillus sandiegensis*), Cooper's hawk (*Accipiter cooperii*) [illegible] (*Aimophila ruficeps canescens*) and Belding's orange[illegible] (*Aspidoscelis hyperythra*

beldingi [illegible]

[illegible]

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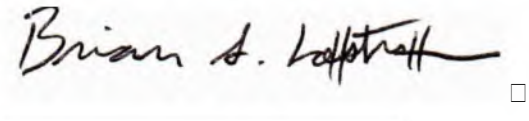

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Attachments

[illegible]
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3 [illegible]

Figures

[illegible]
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3 [illegible]

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References Cited

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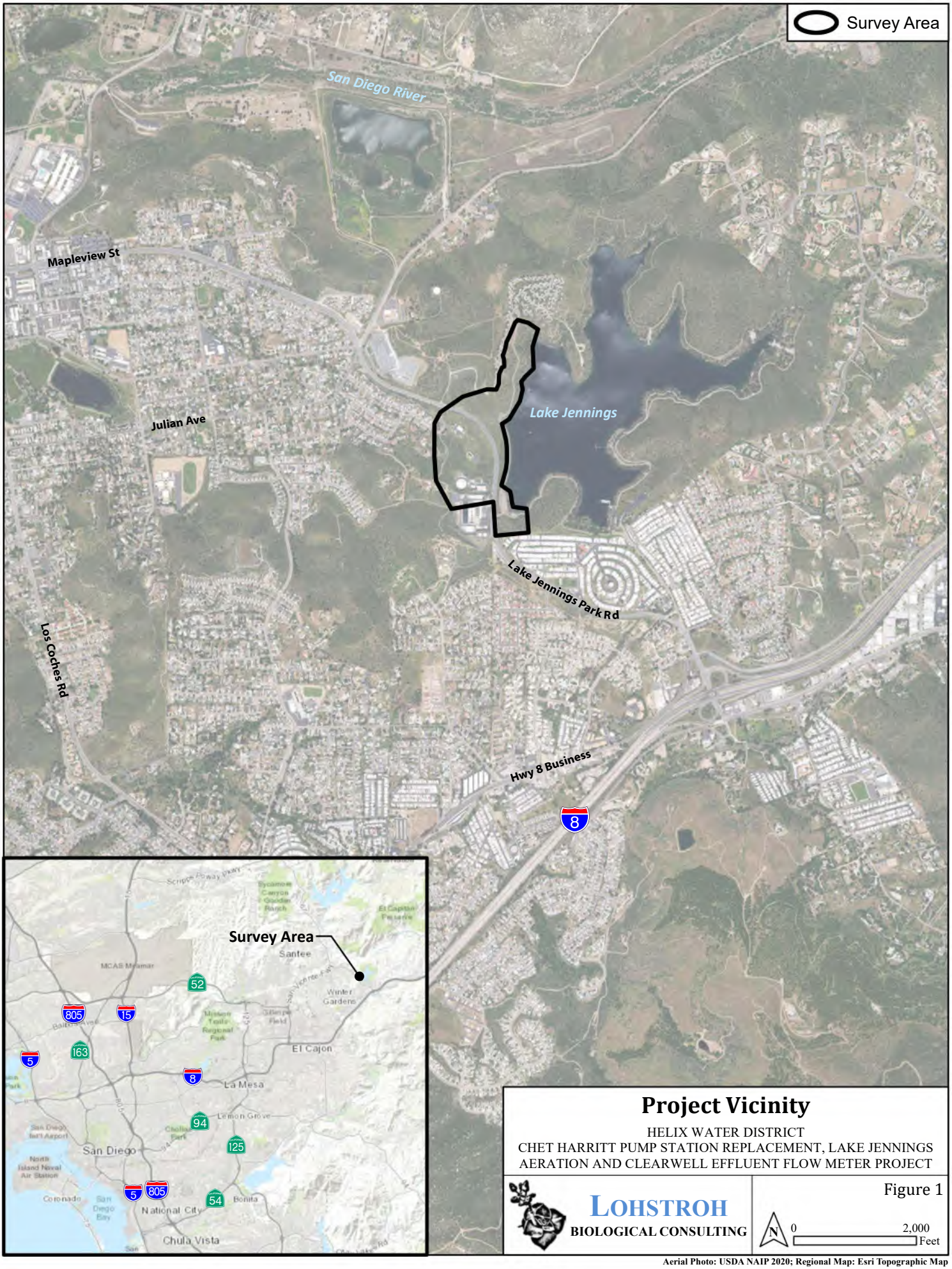


Project Vicinity

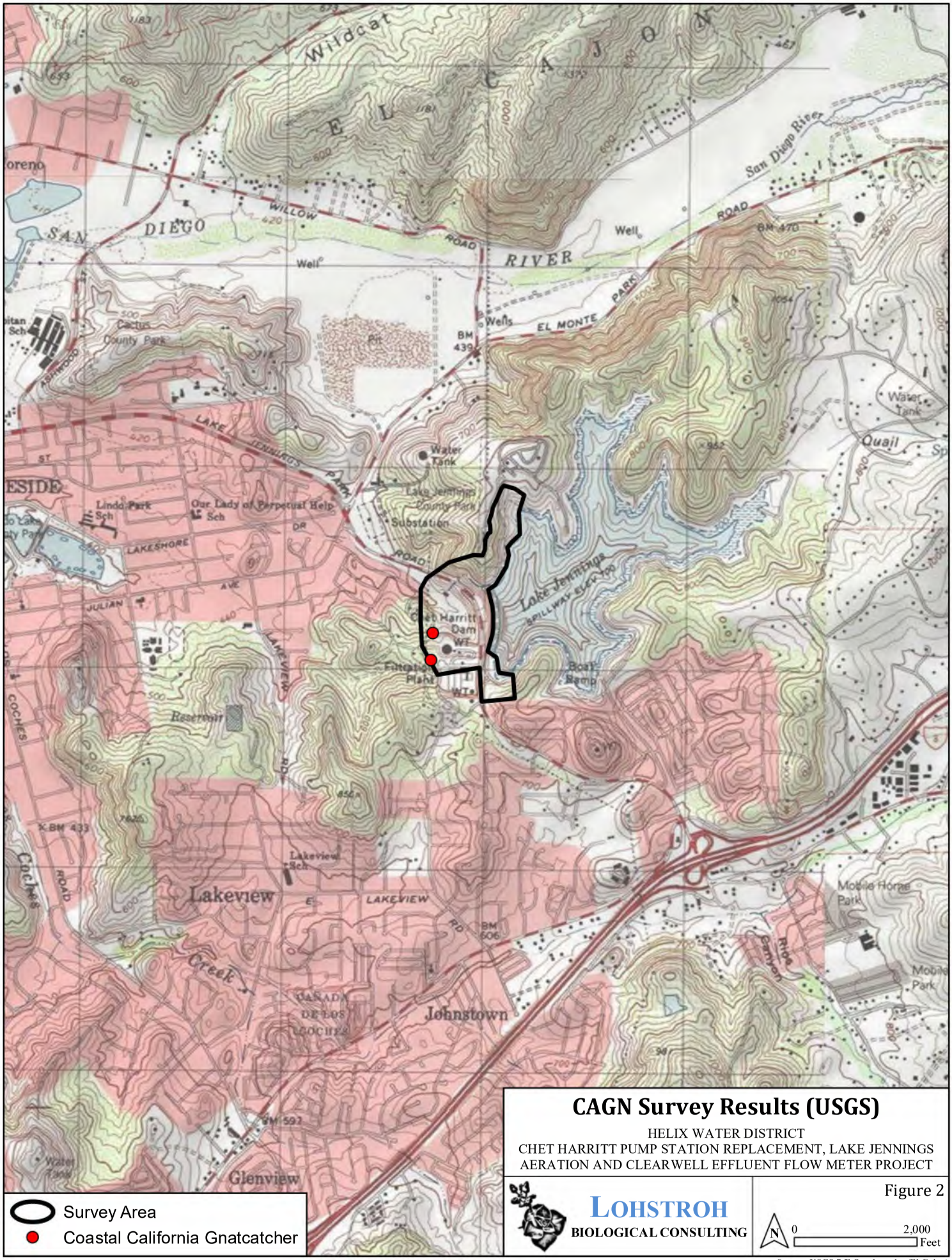
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 1

N 0 2,000 Feet

Aerial Photo: USDA NAIP 2020; Regional Map: Esri Topographic Map



CAGN Survey Results (USGS)

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 2

N 0 2,000 Feet

Source: USGS 7.5' Quadrangles (El Cajon)

Survey Area
Coastal California Gnatcatcher Critical Habitat

CAGN Suitable Habitat

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed
Diegan Coastal Sage Scrub - Baccharis Dominated
Diegan Coastal Sage Scrub - Chaparral

CAGN Survey Results

Coastal California Gnatcatcher

Other Special Status Species

Belding's Orange-throated Whiptail
Coastal Cactus Wren
Cooper's Hawk
Southern California Rufous-crowned Sparrow

Bream Dr
Choisser Ln
Lake Jennings
Lake Jennings Park Rd
Bass Dr

CAGN Survey Results

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 3

N 0 240 Feet

Aerial Photo: Nearmap 2021

Representative Photos

Photo 1. [illegible]

Photo 2. [illegible]

Representative Photos

Photo 3. [illegible]

Photo 4. [illegible]

Representative Photos

Photo 5. [illegible] in background is outside of the survey area and likely the heart of the second male's territory.

Photo 6. [illegible]

Representative Photos

Photo 7. [illegible]

Photo 8. [illegible]

Wildlife Species Detected

Common Name	*Scientific Name*
Birds	
Canada Goose	*Branta canadensis*
Mallard	*Anas platyrhynchos*
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Great Basin Fence Lizard	*Sceloporus occidentalis longipes*
Southern Pacific Rattlesnake	*Crotalus oreganus helleri*
Belding's Orange-throated Whiptail (WL)	*Aspidoscelis hyperythra beldingi*
Mammals	
California Ground Squirrel	*Ostospermophilus beecheyi*
Desert Cottontail	Sylvilagus audubonii

SSC: California Species of Special Concern
WL: California Watch List Species
SE: California listed as Endangered
FP: California Fully Protected Species
FT: Federally listed as Threatened
*Introduced species

AQUATIC RESOURCES DELINEATION REPORT FOR THE CHET HARRITT PUMP STATION, LAKE JENNINGS AERATION SYSTEM AND CLEARWELL TANK EFFLUENT FLOW METER PROJECT

Lakeside, San Diego County, California

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LOHSTROH
BIOLOGICAL CONSULTING

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EXECUTIVE SUMMARY

Lohstroh Biological Consulting (LBC) was retained by Black & Veatch to perform an aquatic resources delineation on behalf of Helix Water District, for the Chet Harritt Pump Station, Lake Jennings Aeration System and Clearwell Tank Effluent Flow Meter Project (Project). The Project site is located within the unincorporated community of Lakeside within the County of San Diego, California along the western shoreline of Lake Jennings. As part of the Project, the Helix Water District proposes improvements to some of its existing facilities in order to accommodate participation in the East County Advanced Water Purification Program. The Project is within the Lower San Diego Hydrological Area ([HA] 907.10) and the Los Coches Creek-San Diego River Watershed (Hydrologic Unit Code [HUC] 180703040703). The aquatic resources delineation survey area (Survey Area) is approximately 89 acres and encompasses appropriate buffers from proposed pipeline alignments and associated staging and work areas.

This Aquatic Resources Delineation Report (ARDR) summarizes the existing conditions within the Survey Area, the methodologies employed prior to and during field work, and the results of the delineation survey, including data and mapping of the amount, type, and location of aquatic resources. The location and extent of aquatic resources delineated herein is preliminary and subject to the final discretion of the applicable resource agency. Verification of this ARDR and a jurisdictional determination must be made solely by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

The Survey Area contained the amount and type of potential aquatic resources reported in Table 1. In summary, aquatic resources within the survey area that are potentially jurisdictional to USACE total 20.32 acres and 974 linear feet, consisting of 0.91 acres of wetland waters of the U.S. and 19.40 acres of non-wetland waters of the U.S.; aquatic resources that are potentially jurisdictional to RWQCB total 20.49 acres and 4305 linear feet; and aquatic resources potentially jurisdictional to CDFW total 20.91 acres and 1235 linear feet, consisting of 1.59 acres of riparian habitat/wetlands and 19.32 acres of streambed, lake and bank.

Table 1. Summary of Potential Aquatic Resources within the Survey Area

Potential Aquatic Resource Type (Agency[1] Jurisdiction)	Amount[2]	
	Acres	Linear feet
USACE Waters of the U.S. (includes RWQCB and CDFW Jurisdiction)		
Wetland Waters	0.91	--
Non-wetland Waters	19.40	*974*
Total USACE Aquatic Resources	***20.32***	***974***
RWQCB Waters of the State		
Non-wetland Waters (RWQCB-exclusive)	0.17	3331
Total RWQCB Aquatic Resources (USACE and RWQCB)	***20.49***	***4305***
CDFW Waters of the State		
Riparian Habitat/Wetlands	1.59	--
Streambed/Lake/Bank	19.32	1235
Total CDFW Aquatic Resources	***20.91***	***1235***

[1] USACE = United States Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.
[2] All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

1.0 INTRODUCTION

Lohstroh Biological Consulting (LBC) was retained by Black & Veatch to perform an aquatic resources delineation on behalf of Helix Water District, for the Chet Harritt Pump Station, Lake Jennings Aeration System and Clearwell Tank Effluent Flow Meter Project (Project). The Project site is located within the unincorporated community of Lakeside within the County of San Diego, California along the western shoreline of Lake Jennings (Figures 1 and 2).

As part of the Project, the Helix Water District plans to participate in and receive product water from the East County Advanced Water Purification Program (ECAWP). ECAWP is a collaborative effort among Padre Dam Municipal Water District, the City of El Cajon, the County of San Diego, and Helix Water District. ECAWP will create a new, sustainable and drought-proof drinking water supply using state-of-the-art technology to purify locally sourced recycled water.

To accommodate this program, Helix Water District proposes the following improvements to its facilities: replacement of the current Chet Harritt Pump Station (circa 1970) with a new pump station; implementation of an aeration system within Lake Jennings; and installation of an effluent flow meter for the existing 5.3 million gallon-capacity Clearwell Tank. These Project components also include installation of an electrical duct bank between an electrical vault east of the Clearwell Tank and the new pump station, air supply pipelines between the pump station and Lake Jennings, an air supply loop line option that connects to the air supply line at the dam and enters Lake Jennings approximately 800 feet to the north, removal of an existing air compressor and air supply piping on the east side of the dam, enhancements to the existing dam seepage weir, and replacement of the dam weir sump near the pump station.

The approximately 89-acre aquatic resources delineation survey area (Survey Area) includes appropriate buffers from proposed pipeline alignments and associated staging and work areas. The Survey Area includes the following assessor's parcel numbers (APN): 3951521000, 3951600600, 3951303800, 3953001500, 3951303000, 3951303900, 3951304000, and 3951400100. The Project is within the San Diego River Watershed in central San Diego County, California.

1.1 PROJECT APPLICANT AND PROPERTY OWNER

The property owner of the majority of the Survey Area is Helix Water District, with small portions of some additional privately-held lands that occur along the edge of the Survey Area. Contact information for the Project applicant is:

Project Applicant:
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The Project applicant representative will accompany regulatory agencies to the Project site upon request.

1.2 LOCATION AND DIRECTIONS

The Survey Area is located within the unincorporated community of Lakeside within the County of San Diego, California and occurs entirely within the Los Coches Creek-San Diego River Watershed (Figures 1: and 2). The Survey Area is within the El Cajon U.S. Geological Survey (USGS) 7.5-minute quadrangle map and is located specifically along the western shoreline of Lake Jennings. The Survey Area is bisected by

Lake Jennings Park Road approximately 0.7 miles north of Interstate 8. Access to much of the Survey Area is controlled and behind locked gates. Site access can be arranged ahead of time with the Helix Water District applicant contact. Directions to Helix Water District's R.M. Levy Water Treatment Plant located onsite at 9550 Lake Jennings Park Rd, Lakeside, CA 92040 are as follows:

> **Directions from San Diego:** Take SR-94 East and continue for 7.7 miles before merging onto SR-125 N for approximately 2 miles; take Exit 8B to merge onto I-8 East and continue for 9.5 miles; Take Exit 23 for Lake Jennings Park Road and make a left to head north towards Lake Jennings for approximately 1 mile. Turn left into the Helix Water District's R.M. Levy Water Treatment Plant at 9550 Lake Jennings Park Rd. Use call box to gain access to the plant.
>
> **Directions from Los Angeles:** Take I-5 South towards San Diego and continue for 102 miles before merging and continuing on I-805 South towards Chula Vista for 4.7 miles; take exit 23 onto SR-52 East and continue for 13.6 miles before merging onto SR-67 North towards Ramona for 3.6 miles; Turn right on Mapleview Street for 0.5 miles and continue onto Lake Jennings Park Road for 1.3 miles, Turn right into the Helix Water District's R.M. Levy Water Treatment Plant at 9550 Lake Jennings Park Rd. Use call box to gain access to the plant.

1.3 Survey Area Site Description, Landscape and Setting

The Survey Area includes shallow to moderately steep vegetated slopes and ridgelines associated with Lake Jennings and its earthen dam. This aquatic resource delineation focused on determining the presence and extent of aquatic resources throughout the Survey Area and included areas both above and below the Chet Harritt Dam.

Lake Jennings is a drinking water reservoir completed in 1964 and owned and operated by the Helix Water District, which provides water to the cities of El Cajon, La Mesa, Lemon Grove and unincorporated area of the County of San Diego. The Helix Water District's R.M. Levy Water Treatment Plant is present in the southwestern corner of the Survey Area, the Harold Ball Pump Station and Chet Harritt Pump Station are present at the base of the dam to the north of the plant, and the Lake Jennings Campground is present along the northwestern edge of the Survey Area (Figure 2).

The Survey Area is located within the California Coastal Chaparral Forest and Shrub Province ecological subregion (261), which encompasses the discontinuous coastal plains, low mountains, and interior valleys adjacent to the Pacific Ocean from San Francisco to San Diego (McNab *et al.* 2007). Within that province, the Survey Area occupies the Southern California Coast Section, which consists of narrow, relatively low-elevation mountain ranges with alluvial lowlands and coastal terraces that support sagebrush, chapparal and western hardwood vegetation. Elevation above mean sea level (AMSL) within the Survey Area ranges from approximately 785 feet in the extreme northern portion of the Survey Area, to approximately 510 feet below the dam in the western portion of the Survey Area. The reservoir surface level is designed to operate at approximately 700 feet AMSL. The Survey Area is not within the Coastal Zone.

The majority of the Survey Area is undeveloped with the exception of the treatment plant, pump station facilities and roadways. The Survey Area encompasses both upland and wetland vegetation communities (Figure 3). Lake Jennings is classified as an impounded, permanently flooded, limnetic, lacustrine system with an unconsolidated bottom (L1UBHh) by the National Wetlands Inventory (NWI; U.S. Fish and Wildlife Service [USFWS] 2022). Additional features mapped by NWI include the Chet Harritt Dam spillway, which is a seasonally flooded, intermittent streambed (R4SBC), and a temporarily flooded, persistent, freshwater emergent wetland (PEM1A) that occurs at the base of the dam. (Figure 4). Within the Survey Area, only Lake Jennings is mapped by the National Hydrography Dataset (NHD; USGS 2022; Figure 5).

2.0 INVESTIGATION METHODOLOGY

Data regarding aquatic resources present within the Survey Area were obtained through a review of pertinent literature and field reconnaissance, both of which are described below.

2.1 PRE-FIELD LITERATURE REVIEW AND DESKTOP ANALYSIS

The purpose of the literature review and desktop analysis is to obtain contextual information relevant to the site to be surveyed, which may not be evident from the ground during field surveys. The following sources were referenced to gain a better understanding of the physical and hydrologic setting of the Survey Area:

- 7.5-minute USGS topographic quadrangle maps,
- Aerial imagery of the Survey Area,
- The 2020 National Wetland Plant List (v3.5) (NWPL)-Arid West 2020 Regional Wetland Plant List (U.S. Army Corps of Engineers [USACE] 2020),
- NWI (USFWS 2022),
- NHD/Watershed Boundary Dataset (USGS 2022),
- The FEMA Flood Map Service Center (FEMA 2022),
- The Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022a),
- The NRCS Official Soils Series Descriptions (NRCS 2022b),
- The National List of Hydric Soils (NRCS 2022c), and
- The Agricultural Applied Climate Information System (AgACIS; National Oceanic and Atmospheric Administration [NOAA] 2022).

2.2 ON-SITE FIELD SURVEY

LBC Principal Biologist Brian Lohstroh conducted a formal aquatic resource delineation of the Survey Area on October 18, 2022, with a follow-up survey on November 9, 2022 to evaluate additional areas that resulted from design updates.

2.2.1 DELINEATION OF FEDERAL WATERS

ON-SITE WETLAND INVESTIGATION

Waters of the U.S. regulated by the USACE include those waters listed in 33 Code of Federal Regulations (CFR) Part 328 (Definitions of Waters of the United States). All potential waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR § 328.4 (Limits of Jurisdiction). Pre-field analysis confirmed the potential presence of both non-wetland waters and wetland waters of the U.S. Therefore, field surveys evaluated the potential for wetland waters of the U.S. pursuant to the three-parameter methods according to the following:

(1) *Corps of Engineers Wetlands Delineation Manual* (Manual; Environmental Laboratory 1987),

(2) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0; Environmental Laboratory 2008), and

(3) Applicable USACE Regulatory Guidance Letters (RGLs).

Unless paired with a wetland location, if one of the three wetland parameters (*e.g.,* dominance of hydrophytic vegetation) was not observed, no Wetland Determination Data Forms were completed and potential aquatic resources were evaluated for presence of an ordinary high water mark (OHWM), as described below.

On-site Non-wetland Waters and OHWM Investigation

Potential non-wetland waters of the U.S. were delineated based on field indicators to define and identify the lateral extent of the OHWM, as defined by 33 CFR § 328.3(c)(7) and according to the following:

- *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);
- *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010);
- *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);
- *Channel Classification across Arid West Landscapes in Support of OHW Delineation* (Lefebvre *et al.* 2013), and
- Applicable USACE RGLs.

Relatively recent changes in regulations have transpired relating to defining waters of the U.S. On June 9, 2021, the U.S. Environmental Protection Agency (EPA) and USACE announced their intention to start a new rulemaking process to redefine waters of the U.S. from those definitions provided by the Navigable Waters Protection Rule (NWPR) that went into effect on June 22, 2020. The NWPR classified federal waters of the U.S. as navigable waters and the core tributary systems that provide perennial or intermittent flow into them. Ephemeral features (defined in the Arid West as those that flow only in direct response to rainfall) were no longer classified as waters of the U.S. On August 30, 2021, a U.S. District Judge for the District of Arizona vacated and remanded the NWPR in the case of *Pascua Yaqui Tribe* v. *U.S. Environmental Protection Agency*, No. CV-20-00266-TUC-RM (D. Arizona Aug. 30, 2021). Pursuant to this order, the U.S. EPA and USACE halted implementation of the NWPR and provided direction to interpret waters of the U.S. consistent with the pre-2015 regulatory regime. On December 30, 2022, the EPA published a final revised definition of Waters of the United States to reflect consideration of Supreme Court decisions, the science, and the agencies' technical expertise (EPA 2022). This final definition uses the pre-2015 regulations as a foundation to provide clear rules of the road that will help advance infrastructure projects, economic investments, and agricultural activities. Under this guidance, the USACE jurisdiction will be determined as follows:

USACE will assert jurisdiction over the following waters:

- **Traditional navigable waters** (TNWs; *i.e.,* all tidal waters and waters that have been, could be, or are used in interstate or foreign commerce);
- **U.S. Territorial Seas** that extend 3 miles out to sea from the coast;
- **Impoundments** of water created in or from waters of the U.S., like reservoirs and beaver ponds;

- **Tributaries** that ultimately flow into traditional navigable waters, the territorial seas, interstate waters, or impoundments of jurisdictional waters. Tributaries are jurisdictional if they meet either the relatively permanent standard or significant nexus standard (see below).

- **Wetlands adjacent to jurisdictional waters**, TNWs, territorial seas or an interstate water (most often within a few hundred feet of jurisdictional waters);

- **Additional waters**: Certain lakes, ponds, streams, or wetlands that do not fit into the above categories. They are jurisdictional if they meet either the relatively permanent standard or the significant nexus standard.

To determine jurisdiction for tributaries, adjacent wetlands and additional waters, two longstanding standards for determining Jurisdiction are applied:

- **Relatively permanent waters (RPWs):** To meet the relatively permanent standard, the waterbodies must be relatively permanent, standing, or continuously flowing waters connected to TNWs, territorial seas or interstate [paragraph (a)(1)] waters or waters with a continuous surface connection to such relatively permanent waters, TNWs, territorial seas or interstate waters.

- The **Significant Nexus** standard is a fact-based analysis that clarifies if certain waterbodies, such as tributaries and wetlands, are subject to the Clean Water Act based on their connection to and effect on larger downstream waters that Congress fundamentally sought to protect. A significant nexus exists if the waterbody (alone or in combination) significantly affects the chemical, physical, or biological integrity of traditional navigable waters, the territorial seas, or interstate waters.

This ARDR was prepared in accordance with USACE Los Angeles District *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2017), and *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016).

2.2.2 Delineation of State Waters

Aquatic Features Under the Purview of RWQCB

Potential aquatic features under the purview of the RWQCB were delineated pursuant to the federal methodology for wetland and non-wetland waters of the U.S. (see Section 2.2.1, above) *and* Section 13000 *et seq.* of the California Water Code (CWC; 1969 Porter-Cologne Water Quality Control Act). The term "waters of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (CWC § 13050[e]). Waters of the state include those waters also under the jurisdiction of the federal government; however, the definition of waters of the State is broader than that for waters of the U.S. in that all waters are considered to be a water of the state regardless of circumstances or condition, including isolated waters pursuant to the California Porter-Cologne Act. Waters of the State must exhibit wetland parameters (defined below) to be considered wetland waters or OHWM-indicators to be considered non-wetland waters.

Additionally, the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State (California Wetland Policy) adopted by the State Water Resources Control Board (SWRCB) on April 2, 2019 became effective May 28, 2020 and stipulates additional procedures and requirements for obtaining approval from waters boards for discharge of dredged or fill materials to state waters (SWRCB 2019). The California Wetland Policy largely models the USACE guidance for defining a wetland, but includes areas with wetland hydrology, wetland soils, and (if vegetated) wetland plants—an area may be a wetland even if it does not support vegetation. Therefore, an area may be considered a state wetland even if it is unvegetated at the time of delineation if it has wetland hydrology and hydric soils.

RWQCB jurisdiction was based on the definition of waters of the State and the California Wetland Policy, but also considered whether resources present a 'beneficial use' as outlined in the *Water Quality Control Plan for the San Diego Basin* (RWQCB 1994, as amended). Aquatic resources were considered under the purview of RWQCB if it was determined that any type of aquatic features occurring within the Survey Area would provide a 'beneficial use.'

AQUATIC FEATURES UNDER THE PURVIEW OF CDFW

Potential aquatic features under the purview of California Department of Fish and Wildlife (CDFW) were delineated pursuant to Section 1600 *et seq*. of the California Fish and Game Code (CFGC). CDFW usually extends its jurisdictional limit to the top of a stream bank, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider. Therefore, jurisdictional boundaries subject to California Fish and Game Code (CFGC) §§ 1600-1617 typically encompass an area that is greater than the lateral extent of the OHWM. Delineation of CDFW-exclusive jurisdictional waters were mapped to include the streambed and, if applicable, the lateral extent of the top of bank above the streambed or lake. Adjacent riparian habitat, if present, was also mapped as CDFW-exclusive jurisdiction.

In addition, CDFW defines wetlands more expansively than USACE. On March 9, 1987, the California Fish and Game Commission assigned CDFW the task of recommending a wetlands definition. CDFW determined the USFWS wetland definition and classification system to be the most biologically valid for California. The USFWS definition utilizes hydric soils, saturation or inundation, and vegetative criteria, and requires the presence of at least one of these criteria (rather than all three as in the case of USACE jurisdiction) in order to classify an area as a wetland. The USFWS wetland definition and classification system is based upon Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al.* 1979). Therefore, CDFW only requires the presence of one-parameter (*i.e.,* wetland hydrology, hydric soils, or hydrophytic vegetation) for an area to qualify as a wetland. For example, lakes (or lacustrine habitats) and streams (or riverine habitats) supporting only parameters of hydrology are wetlands jurisdictional to CDFW.

2.2.3 COUNTY RESOURCE PROTECTION ORDINANCE (RPO) WETLANDS

The County regulates natural resources (among other resources), including wetlands, as sensitive biological resources via the Resource Protection Ordinance (RPO; County 2011). It is the intent of the RPO to increase the preservation and protection of the County's unique topography, natural beauty, biological diversity, and natural and cultural resources. The Survey Area contains riparian habitat and wetlands as defined by the RPO in Section 86.602. However, the proposed Project qualifies as an essential public facility and, therefore, is exempt from the RPO as detailed in Section 86.605c of the ordinance.

2.2.4 MAPPING STANDARDS

Spatial and attribute data were populated using the Environmental Systems Research Institute (ESRI) Field Maps application for ArcGIS running on an Apple iOS smartphone. Aquatic resources were mapped in the field using a Juniper Systems Geode model GNS1 sub-meter-accuracy global positioning system (GPS) receiver connected to the smartphone through a Bluetooth connection. Spatial data collected with GPS and the ArcGIS Field Maps application was imported into ArcMap software for post-field processing as described in Section 2.3 Post-field Data Processing and Quality Assurance/Control. ArcGIS data is managed in a projection of NAD83 State Plane CA Zone VI, feet. Topographic data providing two-foot contours was referenced to supplement the GPS collected delineation data, where applicable.

2.2.5 PHOTOGRAPHS

Photographs were taken of all aquatic resources mapped. Representative photographs for each feature type are included in Appendix B: Photos.

2.2.6 Agency Forms

The 2008 Supplement Wetland Determination Data Form-Arid West Region (Environmental Laboratory 2008) was used to document the presence/absence of potential wetlands at five locations within the Survey Area. The 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet (Curtis and Lichvar 2010) was completed to document the OHWM associated with the unnamed drainage connected to the dam spillway. All data forms are included in Appendix C: Data Forms. Additionally, an OMBIL Regulatory Module (ORM) bulk upload spreadsheet for USACE jurisdictional waters has been completed and will be submitted to the USACE for verification of this aquatic resource delineation (Appendix D).

2.3 Post-field Data Processing and Quality Assurance/Control

After the field delineation was completed, all collected data including electronic data, photographs, and handwritten notes were evaluated to determine the location, type, and amount (areal extent and linear distance, as applicable) of aquatic resources. GPS-collected spatial data were imported into ArcMap software and edited as needed for consistency. Polygons were created from mapped edges of OHWM where applicable, and as supported by hydric vegetation and/or riparian canopy and topographic data providing two-foot contours. All areal extent and linear distances were calculated using ArcMap.

3.0 ENVIRONMENTAL SETTING

This section describes the existing conditions in terms of vegetation, hydrology, and soils.

3.1 VEGETATION

3.1.1 VEGETATION COMMUNITIES AND COVER TYPES

Vegetation communities were mapped in 2022 by LBC according to descriptions in the *Draft Vegetation Communities of San Diego County* (Oberbauer *et al.* 2008) and as described in the Biological Constraints Report (LBC 2022). Table 2 identifies the vegetation community acreages that occur within the Survey Area. Figure 3 displays the vegetation mapping conducted within the Survey Area. Vegetation communities supporting wetland habitats evaluated in this ARDR are described below and include Coastal and Valley Freshwater Marsh, Eucalyptus Woodland and Southern Willow Scrub. Open water is also included in this category, although it is not technically a vegetated wetland habitat. Although Eucalyptus Woodland is traditionally considered an upland vegetation community, at least one species (*Eucalyptus camaldulensis*) is considered a facultative wetland species (FAC) in the Arid West and areas dominated by this species can be considered a wetland vegetation community. Similarly, a patch of ornamental Brazilian pepper trees (*Schinus terebinthifolius*, FAC) along the shoreline of Lake Jennings were included as a wetland vegetation community.

Table 2. Vegetation Communities/Land Cover Types

Vegetation Community (Holland/Oberbauer Code)[1]	Area (Acres)[2]
Wetlands/Waters	
Coastal and Valley Freshwater Marsh (52410)	0.50
Eucalyptus Woodland (79100)[3]	0.80
Southern Willow Scrub (63320)	0.23
Open Water (64140)	18.45
Ornamental (Brazilian pepper trees) (11000)[4]	0.06
Subtotal	**20.04**
Uplands	
Coast Live Oak Woodland (71160)	0.02
Developed Lands (12000)	15.88
Diegan coastal sage scrub [including disturbed] (32500)	37.86
Diegan Coastal Sage Scrub - Chaparral (32G00)	0.77
Disturbed Habitat (11000)	3.04
Eucalyptus Woodland (79100)	0.44
Non-native grassland (42200)	8.92
Ornamental (11000)	1.85
Subtotal	**68.78**
GRAND TOTAL	**88.82**

[1] Draft Vegetation Communities of San Diego County, Oberbauer, 2008.
[2] Acreages are rounded to the nearest hundredth; thus, totals reflect rounding.
[3] Dominated by *Eucalyptus camaldulensis* (FAC); Includes areas of open water beneath canopy along Lake Jennings.
[4] Dominated by *Schinus terebinthifolius* (FAC).

Coastal and Valley Freshwater Marsh (52410)

Freshwater Marsh is dominated by perennial, emergent monocots 4 to 5 meters tall. Uniform stands of bulrushes (*Schoenoplectus* spp.) or cattails (*Typha* spp.) often characterize this habitat. Freshwater marsh occurs in wetlands that are permanently flooded by standing fresh water. Dominated mostly by southern cattail (*Typha latifolia),* narrow strands of this vegetation community are present onsite along the lakeshore fringe, often located within the understory of taller trees. Some patches of California bulrush (*Schoenoplectus californicus*) are also present along the lake shore in the southern portion of the Survey Area.

Coast Live Oak Woodland (71160)

This woodland community is dominated by coast live oak (*Quercus agrifolia*), an evergreen oak that reaches 10-25 meters in height. The shrub layer is often poorly developed and the herb component is typically dominated by non-native grasses. A small area of coast live oak woodland consisting of relatively young trees exists near the western extent of the Survey Area and is likely a restored area.

Developed Lands (12000)

Developed lands are present primarily in the western and southern portions of the Survey Area, and include industrial development (water treatment plant, etc.) and associated infrastructure, such as paved and unpaved roadways, driveways, sidewalks and parking areas. Barren areas included with developed lands are characterized as areas that are devoid of vegetation, often result from chronic disturbance, such as vehicle use.

Diegan Coastal Sage Scrub - Various Subtypes (32500)

Diegan coastal sage scrub is comprised of low, soft-woody subshrubs to about 3 ft high, many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species in this vegetation type may vary, depending on local site factors and levels of disturbance.

Large areas of Diegan coastal sage scrub occur throughout the Survey Area, and this habitat is dominated by California sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), San Diego sunflower (*Bahiopsis laciniata*) and coast prickly pear (*Opuntia littoralis*). Other common constituents include fountain grass (*Pennisetum setaceum*), broom Baccharis (*Baccharis sarothroides*), California Encelia (*Encelia californica*), short-pod mustard (*Hirschfeldia incana*), and other non-native grasses (*Bromus* spp., *Avena* spp.).

Near the western extent of the Survey Area and possibly indicative of a history of disturbance in this area, a patch of native broom Baccharis have become established. This species often recolonizes areas after disturbance (Oberbauer *et al*. 2008) and is mapped as Diegan coastal sage scrub-Baccharis dominated onsite. This vegetation community is characterized by almost monotypic stands of broom Baccharis, with an understory of non-native short-pod mustard and non-native grasses.

Disturbed Diegan coastal sage scrub is usually indicative of wildfire or mechanical manipulation from which the habitat is recovering. Onsite, this habitat is interspersed and adjacent to the areas of undisturbed Diegan coastal sage scrub. This vegetation community supports many of the constituents noted above, but they are more sparsely distributed. There is also a high incidence of non-native grasses and weedy species like short-pod mustard.

Diegan Coastal Sage Scrub-Chaparral (37G00)

This mixed community includes both drought-deciduous sage scrub species and woody chaparral species, and is typically a post-fire successional community often observed in mesic situations. This vegetation

community can be found in the southern portion of the Survey Area and is dominated by California sagebrush, southern monkeyflower (*Diplacus australis*), white sage (*Salvia apiana*), golden yarrow (*Eriophyllum confertiflorum*), laurel sumac and poison oak (*Toxicodendron diversilobum*).

Disturbed Habitat (11300)

Disturbed habitat is a land cover type characterized by a predominance of non-native species, often introduced and established through human action. Oberbauer *et al.* (2008) describes disturbed land as areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association but continues to retain a soil substrate. Typically, vegetation, if present, is nearly exclusively composed of non-native plant species.

Onsite, disturbed habitat is associated with the spillway and around the pump station at the base of the dam. Species present include sparse non-native grasses and short-pod mustard.

Eucalyptus Woodland (79100)

Eucalyptus woodland is typically characterized by dense stands of gum trees (*Eucalyptus* spp.). Plants in this genus, imported primarily from Australia, were originally planted in groves throughout many regions of coastal California as a potential source of lumber and building materials, for their use as windbreaks, and for their horticultural novelty. They have increased their cover through natural regeneration, particularly in moist areas sheltered from strong coastal winds. Gum trees naturalize readily in the state where they form dense stands and tend to completely supplant native vegetation. Very few native plants are compatible with eucalyptus.

Onsite, small stands of eucalyptus woodland dominated by red river gums (*Eucalyptus camaldulensis*) are present along the lakeshore fringe in the eastern portion of the Survey Area and associated with the campground in the north portion of the Survey Area.

Non-native Grassland (42200)

Non-native grassland generally occurs on fine-textured loam or clay soils which are moist or 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 non-native annual forbs (Oberbauer *et al.* 2008). This habitat is a disturbance-related community most often found in old fields or openings in native scrub habitats. Within the Survey Area, species present include red brome (*Bromus rubens*), wild oats (*Avena barbata*, *A. fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*) and the occasional native purple needle grass (*Stipa pulchra*).

Open water (64140)

Open water is an area of submerged aquatic communities supporting minimal vegetative cover (less than 10 percent) and occurs within lakes, streams, ponds, and rivers. Open water areas within the Survey Area are associated with Lake Jennings.

Ornamental (11000)

Ornamental plantings, also described as non-native vegetation and/or part of urban/developed (Oberbauer *et al.* 2008), includes trees, shrubs, and annual species that are not native to California. Ornamental vegetation is generally characterized by plant species placed by humans in areas to provide some function, such as decorative landscaping or shade to developed areas. Ornamental species can also become naturalized in areas and encroach into native habitats. Ornamental plantings within the Survey Area largely consist of Canary Island pine trees (*Pinus canariensis*), Peruvian pepper trees (*Schinus molle*), golden wattle (*Acacia longifolia*), Mexican palo verde (*Parkinsonia aculeata*), Brazilian pepper trees, and olive trees

(*Olea europaea*), among others. Ornamental plantings are present within the Survey Area are generally associated with the developed areas and buildings in the western and southern portions of the site.

Southern Willow Scrub (63320)

Southern willow scrub includes thickets dominated by small willow (*Salix* spp.) trees or shrubs and is common along stream banks and drainages within canyon bottoms and floodplains. This vegetation community is found scattered along the lakeshore fringe onsite and is generally composed of black willows (*Salix gooddingii*), with occasional arrow weed (*Pluchea sericea*).

3.1.2 Hydrophytic Vegetation

Hydrophytic plant species associated with the vegetation communities identified in Section 3.1.1 are reported in Table 3. Only plant species with a hydrophytic indicator of Obligate (OBL), Facultative Wetland (FACW), and Facultative (FAC) in the Arid West will be considered for the federal definition of wetlands to meet the hydrophytic plant community wetland parameter (Environmental Laboratory 1987).

Table 3. Hydrophytic Vegetation with Survey Area

Scientific Name	Common Name	NWPL Indicator Status
Baccharis salicifolia	mule fat	FAC
Bacopa monnieri	herb of grace	OBL
Eucalyptus camaldulensis	red river gum	FAC
Muhlenbergia rigens	deer grass	FAC
Pluchea sericea	arrow weed	FACW
Rumex crispus	curly dock	FAC
Salix gooddingii	black willow	FACW
Schinus terebinthifolius	Brazilian pepper tree	FAC
Schoenoplectus californicus	California bulrush	OBL
Tamaris ramosissima	tamarisk	FAC
Typha latifolia	southern cattail	OBL
Washingtonia robusta	Washington fan palm	FACW

Source: USACE 2020, NWPL Indicator Status for the Arid West Region, v3.5.

3.2 Hydrology

3.2.1 Surface Water

The Survey Area is within the Santee Hydrologic Sub Area ([HSA] 907.12) of the Lower San Diego Hydrological Area ([HA] 907.10) of the San Diego Hydrologic Unit ([HU] 907.00); and is within the Los Coches Creek-San Diego River Watershed (HU Code [HUC] 180703040703). The USGS watershed boundary is identified in Figure 5. The Los Coches Creek-San Diego River Watershed (12-digit HUC 180703040703) includes an area of approximately 52 square miles (135 square kilometers) and is part of the overall San Diego River Watershed, the second largest watershed management area located in San Diego County.

Lake Jennings is considered a jurisdictional “Waters of the United States” by the current definition (30 CFR 120.2). Lake Jennings is not on the USACE Los Angeles District list of TNWs (USACE 2022) and is therefore not considered a TNW at this time, although it shares properties of water bodies that are on the list (*e.g.,* recreation, boat rentals). Lake Jennings’ shoreline supports areas of littoral emergent freshwater marsh and scrub-shrub wetlands. In general, drainage of the Survey Area occurs primarily through surface runoff and stormwater discharge. Above the Chet Harritt Dam, water drains into Lake Jennings where it is stored and treated; below the dam, water drains to the west to Lindo Lake (County of San Diego Parks and Recreation 2022) through a storm drain system consisting of underground pipes, box culverts, earthen channels and concrete-lined channels. Lindo Lake is a natural freshwater impoundment and County Park

that was historically and is currently used for recreational purposes (Lakeside Historical Society 1986). Lindo Lake is not on the USACE Los Angeles District list of TNWs (USACE 2022), and is therefore not considered a TNW at this time. However, Lindo Lake is connected to the San Diego River via a culvert (RECON 2018), which flows westerly to until it is classified as a TNW (USACE 2022).

The USACE is in the process of developing and implementing a Stream Duration Assessment Method (SDAM) for the Arid West Region for determining streamflow duration. The Classification Report generated by the Beta version of the SDAM (version 1.0) characterizes the flow duration of the unnamed ephemeral streambed associated with the spillway within the Survey Area as ephemeral based on field characteristics of absence of hydrophytic plant species, no aquatic invertebrates, and absence of EPT taxa (Appendix E).

Beneficial Uses

The Survey Area is located in the RWQCB Region 9 (San Diego) jurisdiction. Although the areas below the Chet Harritt Dam drain to Lindo Lake as described above, this water body is not listed in the basin plan. Due to Lindo Lake's proximity to the San Diego River, which is also the primary receiving water within the watershed, the San Diego River is also evaluated in this discussion. According to the Water Quality Control Plan for the San Diego Basin (RWQCB 1994), the predominant beneficial uses for Lake Jennings, the San Diego River and its tributaries include drinking water supply, industrial uses, recreational uses, and habitat.

Beneficial uses for potential receiving waters in the watershed where the Survey Area is located are provided in Table 4. In Table 4, beneficial use abbreviations are defined as follows:

MUN: Municipal and domestic supply
AGR: Agricultural supply
IND: Industrial service supply
PROC: Industrial process supply
GWR: Ground water recharge
FRSH: Freshwater habitat
POW: Hydropower generation
REC1: Water contact recreation
REC2: Non-contact water recreation
BIOL: Preservation of biological habitats of special significance
EST: Estuarine habitat
WARM: Warm freshwater habitat
COLD: Cold freshwater habitat
WILD: Wildlife habitat
RARE: Rare, threatened, and endangered species
MAR: Marine habitat
MIGR: Migration of aquatic organisms
SPWN: Spawning, reproduction, and/or early development
SHELL: Shellfish harvesting

Table 4. Beneficial Uses for Potential Receiving Waters in the Survey Area Watershed

Waterbody	Beneficial Uses[1]																		
	MUN	AGR	IND	PROC	GWR	FRSH	POW	REC1	REC2	BIOL	EST	WARM	COLD	WILD	RARE	MAR	MIGR	SPWN	SHELL
San Diego River[2]	P	-	E	-	-	-	-	E	E	-	-	E	-	E	E	-	-	-	-
Lake Jennings	E	-	E	-	-	-	-	E	E	-	-	E	E	E	-	-	-	-	-

[1] Beneficial use designations are defined as follows: E (existing use), P (potential use), I (intermittent use).
[2] HSA 907.12

IMPAIRED WATERBODIES

Clean Water Act (CWA) Section 303(d)(1)(A) requires states to identify surface waters impaired by pollution (*i.e.*, do not meet water quality standards), and to establish total maximum daily loads for pollutants causing the impairments. Lake Jennings is an impaired waterbody for mercury. The lower San Diego River is an impaired waterbody for benthic community effects (hydromodification, illicit connections/illegal hook-ups, dry weather flows, unknown point and nonpoint sources, urban runoff/storm sewers), bifenthrin, chlordane, chloride, color, cyfluthrin, cypermethrin, indicator bacteria, nitrogen, dissolved oxygen, permethrin, phosphorus, pyrethroids, total dissolved solids, toxicity, and turbidity according to the Final 2020/2022 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report, SWRCB 2022). The indicator bacteria listed is *Escherichia coli* and *Enterococcus*, affecting the existing beneficial use of water contact recreation (REC1) of the upper San Diego River.

3.2.2 FEMA FLOODPLAIN

According to the Federal Emergency Management Agency (FEMA) Flood Hazard maps, the Survey Area is designated as Flood Zone X (Figure 6). Zone X areas are minimal flood hazard areas determined to be outside the 500-year floodplain and Special Flood Hazard Area.

3.3 SOILS

The U.S. Department of Agriculture, NRCS Web Soil Survey was referenced to determine which soil types were present within the Survey Area (NRCS 2022a). Soils within and near the Survey Area are displayed on Figure 6. Five distinct soil map units occur within the Survey Area from the following four soils series: Bosanko, Escondido, Friant and Huerhuero. A summary of each soil series is provided below. None of these soil map units are listed as hydric soils where frequently ponded for long duration during growing season (NRCS 2022c). Table 5 reports the total area for each soil map unit within the Survey Area.

Table 5. Soils Within the Survey Area

Soil Map Unit	Listed as Hydric by NRCS	Area (Acres)[1]
Bosanko stony clay (5 to 9% slopes)	No	1.15
Escondido very fine sandy loam (15 to 30% slopes, eroded)	No	3.83
Friant fine sandy loam (30 to 50% slopes)	No	4.18
Friant rocky fine sandy loam (30 to 70% slopes)	No	60.36
Huerhuero loam (5 to 9% slopes, eroded)	No	0.85
Water (not soils)	N/A	18.45
	TOTAL	**88.82**

[1] All acreages are rounded to the nearest tenth (which may account for rounding error).

Bosanko Series

The Bosanko series is a member of the fine, smectitic, thermic Aridic Haploxererts. Typically, Bosanko soils are with gray, slightly acid, neutral, and moderately alkaline clay A horizons; brown, calcareous, sandy clay loam C horizons over weathered rock at a depth of about 30 inches. The mean annual soil temperature is 60 to 64 degrees Fahrenheit. The soils in these map units are generally gently sloping to moderately steep and are in the uplands at elevations of about 300 to 2,500 feet. The Series is well-drained, with slow to rapid runoff depending on slope and slow permeability after cracks swell shut. This soils series is not hydric (NRCS 2022c). The northern portion of the Survey Area and campground is composed of Bosanko stony clay, 5 to 9 percent slopes.

Escondido Series

The Escondido series is a member of the coarse-loamy, mixed, superactive, thermic Typic Haploxerepts. Typically, Escondido soils have dark brown slightly acid very fine sandy loam A horizons and neutral very fine sandy loam B2 horizons over hard metamorphic bedrock at depths of about 29 inches. The mean annual soil temperature is 62 degrees Fahrenheit. Escondido soils are on gently rolling to hilly topography in foothills at elevations of 400 to 2,800 feet. The Escondido series are well-drained, with medium runoff and moderate permeability. This soils series is not hydric (NRCS 2022c). A small area within the western portion of the Survey Area is composed of Escondido very fine sandy loam, 15 to 30 percent slopes, eroded.

Friant Series

The Friant series is a member of the loamy, mixed, superactive, thermic Lithic Haploxerolls. Typically, Friant soils have brown, dark brown or dark yellowish brown sandy loam, slightly acid A horizons; gray and yellowish brown, slightly weathered quartz mica schist R horizon. The mean annual soil temperature is 59 degrees to 65 degrees Fahrenheit. The Friant series are generally located on hilly and mountainous landscapes at elevations of 500 to 3,500 feet. The Friant series are well drained, with medium to very rapid runoff and moderately rapid permeability. This soils series is not hydric (NRCS 2022c). The majority of the Survey Area is area is composed of the Friant soil series. Friant rocky fine sandy loam, 30 to 70 percent slopes occurs along the western shores of lake Jennings from the treatment plant north to the campground; Friant fine sandy loam 30 to 50 percent slopes occurs in the southern portion of the Survey Area along the southern shoreline of lake Jennings.

Huerhuero Series

The Huerhuero series is a member of the fine, smectitic, thermic Typic Natrixeralfs. Huerhuero soils typically have brown, pale brown, dark grayish brown, moderately acid, loam A horizons; brown, moderately alkaline, clay B horizons; brown to yellowish brown, slightly alkaline to neutral, sandy loam or loamy sand C horizons. The soils in these map units are typically found on old alluvial fans and marine terraces and have slopes of 0 to 30 percent at elevations from 0 to 1,700 feet. The mean annual soil temperature is 61 to 64 degrees Fahrenheit. Soils in the Huerhuero series are moderately-well or well drained, with very slow saturated hydraulic conductivity. This soils series is not hydric (NRCS 2022c). A small area in the western portion of the Survey Area is composed of Huerhuero loam 5 to 9 percent slopes, eroded.

4.0 PRECIPITATION AND CLIMATE DATA ANALYSIS

In San Diego County (based on data from the San Diego International Airport and Brown Field), the temperature typically varies from 44.3-57.7 degrees Fahrenheit (F) to 72.5-81.1 degrees F over the course of the year, with an annual average maximum temperature of 70.8-73.2 degrees F and an annual average minimum temperature of 53.1-58.5 degrees F (NOAA 2022).

According to AgACIS, the nearest weather stations to the Survey Area collecting climate and precipitation data with 20 years of data available are the Lakeside 2 E and El Cajon stations. In the three months prior to the field survey (performed on October 18, 2022), there was no rainfall in July, but there was approximately 0.00 to 0.09 inch of rainfall in August, 0.13-0.17 inch in September and 0.00-0.13 inches of rainfall in October as reported in Table 6 (NOAA 2022). The average monthly precipitation data for the past approximate 20 years (2002 through 2022) for both the Lakeside 2 E and El Cajon stations are provided in Appendix F, Climatological Data: WETS Table (NOAA 2022). Rainfall in 2021 at the Lakeside 2 E station totaled 10.48 inches and is below the 20-year annual average total rainfall of more than 12.03 inches (November average rainfall missing). However, rainfall in 2021 at the El Cajon station totaled 10.85 inches and is on par with 20-year annual average total rainfall of more than 10.25 inches (October average rainfall missing). Rainfall in September 2022 at both stations was near the 20-year average of 0.12 to 0.16 inch for the month of September (NOAA 2022).

Table 6. Observed Precipitation Near Survey Area Three Months Preceding Field Survey

Weather Station(s)	Date	Rainfall (inches)
Lakeside 2 E / El Cajon, CA	July 18 – 31, 2022	0.00 / 0.00
Lakeside 2 E / El Cajon, CA	August 1 - 31, 2022	0.09 / 0.00
Lakeside 2 E / El Cajon, CA	September 1 - 30, 2022	0.17 / 0.11
Lakeside 2 E / El Cajon, CA	October 1-18, 2022	0.00-M / 0.13

Source: AgACIS (NOAA 2022); M: Missing

The Antecedent Precipitation Tool (APT; Version 1.0.20) was used to evaluate climatic conditions of a representative watershed in the Survey Area: Los Coches Creek-San Diego River Watershed (HUC 180703040703). The APT Watershed Sampling Summary provided in Appendix F summarizes precipitation and climatic data for six random sampling points within HUC 180703040703 for the three months prior to the delineation field work date of October 18, 2022. These data show that all six sampling points exhibited precipitation and climate within the normal range of conditions recorded within HUC 180703040703. The average Antecedent Precipitation Score (derived from the Antecedent Condition Calculation of the three prior months) of 14.5 indicates that climatic conditions were normal despite all six sampling points exhibiting a corresponding drought index (PDSI; based on data from NOAA) indication of extreme drought (Table 7).

Table 7. Antecedent Precipitation Tool Results for HUC 180703040703 on 10/18/2022

No. of Sampling Points	PDSI Value	PDSI Class	Season	Antecedent Precipitation Score	Antecedent Precipitation Condition
3	-4.5	Extreme Drought	Dry Season	15	Wetter than Normal
3	-4.5	Extreme Drought	Dry Season	14	Normal Conditions
			Average	**14.5**	**Normal Conditions**

Source: Antecedent Precipitation Tool (v.1.0.20), generated on 10/25/2022

5.0 RESULTS: DESCRIPTION OF ALL AQUATIC RESOURCES DELINEATED

Potential USACE aquatic resources (waters of the U.S.) are mapped on Figure 7 and include waters with observed OHWM and/or adjacent 3-parameter wetlands. Potential RWQCB aquatic resources (waters of the State) are mapped on Figure 8, and include potential USACE-jurisdictional aquatic resources, plus additional potential RWQCB-jurisdictional features. Potential CDFW-jurisdictional aquatic resources (riparian habitat/wetlands and streambed/bank) are mapped on Figure 9 and include those mapped for the USACE as well as streambed extending to top of bank, the lake shore and adjacent riparian features. These potential federal and State waters include an ephemeral streambed connected to the dam spillway, a dam seepage channel as well as associated wetlands and riparian habitat along Lake Jennings. Representative photographs of delineated waters are provided in Appendix B. Corresponding photograph points for photos 1-26 with orientation are provided in the figures. Tables 8-10 present a listing of the potential aquatic resources within the Survey Area. In summary, aquatic resources within the survey area that are potentially jurisdictional to USACE total 20.32 acres and 974 linear feet, consisting of 0.91 acres of wetland waters of the U.S. and 19.40 acres of non-wetland waters of the U.S. (Table 8); aquatic resources that are potentially jurisdictional to RWQCB total 20.49 acres and 4305 linear feet (Table 9); and aquatic resources potentially jurisdictional to CDFW total 20.91 acres and 1235 linear feet consisting of 1.59 acres of riparian habitat/wetlands and 19.32 acres of streambed, lake and bank (Table 10).

Table 8. Potential USACE and RWQCB Aquatic Resources within the Survey Area

Feature ID	Type[1]	Cowardin Class[2]	Acres[3]	Linear feet	OHWM Width (ft)	Vegetation	Coordinates[4]
USACE Waters of the U.S. (includes RWQCB and CDFW)							
Wetland Waters							
WW-LJ-1	Lake Jennings; Non-TNW	L2US5Hh	0.07	-	-	Southern Willow Scrub	32.85277, -116.89186
WW-LJ-2	Lake Jennings; Non-TNW	L2US5Hh	0.05	-	-	Eucalyptus Woodland	32.85284, -116.89239
WW-LJ-3	Lake Jennings; Non-TNW	L2US5Hh	0.07	-	-	Eucalyptus Woodland	32.85334, -116.89251
WW-LJ-4	Lake Jennings; Non-TNW	L2EMHh	0.00	-	-	Freshwater Marsh	32.85675, -116.89286
WW-LJ-5	Lake Jennings; Non-TNW	L2US5Hh	0.03	-	-	Southern Willow Scrub, Eucalyptus Woodland	32.85690, -116.89262
WW-LJ-6	Lake Jennings; Non-TNW	L2EMHh/ L2US5Hh	0.32	-	-	Southern Willow Scrub, Freshwater Marsh, Eucalyptus Woodland	32.85935, -116.89154
WW-LJ-7	Lake Jennings; Non-TNW	L2EMHh/ L2US5Hh	0.18	-	-	Southern Willow Scrub, Freshwater Marsh, Eucalyptus Woodland	32.85872, -116.88918
WW-LJ-8	Lake Jennings; Non-TNW	L2US5Hh	0.00	-	-	Southern Willow Scrub	32.85851, -116.88884
WW-LJ-9	Lake Jennings; Non-TNW	L2US5Hh	0.00	-	-	Southern Willow Scrub	32.85860, -116.88864
WW-LJ-10	Lake Jennings; Non-TNW	L2EMHh /L2US5Hh	0.07	-	-	Freshwater Marsh, Eucalyptus Woodland, Ornamental (Braz. Pepper)	32.85872, -116.88842
WW-LJ-11	Lake Jennings; Non-TNW	L2EMHh/ L2US5Hh	0.11	-	-	Freshwater Marsh, Eucalyptus Woodland,	32.85634, -116.88689
WW-LJ-12	Lake Jennings; Non-TNW	L2US5Hh	0.01	-	-	Eucalyptus Woodland	32.85585, -116.88737
Subtotal Wetland Waters of the U.S (USACE)			***0.91***	-	-	-	-
Non-wetland Waters							
NWW-D-1	Ephemeral stream; NRPW	R4SB	<0.01	207	1-2	-	32.85722, -116.89444
NWW-D-2	Ephemeral stream; NRPW	R4SB	0.01	141	1-2	-	32.85673, -116.89488
NWW-D-3	Ephemeral stream; NRPW	R4SB	<0.01	110	1-2	-	32.85635, -116.89579
NWW-D-4	Ephemeral stream; NRPW	R4SB	<0.01	46	1-2	-	32.85646, -116.89632
NWW-DS-1	Dam Seepage Channel; RPW	R4SB	<0.01	13	0.5	Developed	32.85524, -116.89424
NWW-LJ-1	Lake Jennings/open water; Non-TNW	L1UBHh	19.32	-	-	-	32.85717, -116.88973
NWW-SP-1	Spillway; NRPW	R4SB	0.06	456	4	Developed	32.85691, -116.89343
Subtotal Non-wetland Waters of the U.S. (USACE)			***19.40***	***974***	--	--	--
Total USACE Potential Aquatic Resources			***20.32***	***974***	--	--	--

[1] Type = Definition of Waters of the U.S. (WUS) under the Clean Water Act (33 CFR 328.3): RPW = Relatively Permanent Waters that flow directly or indirectly into TNWs; NRPW = Non-RPWs that flow directly or indirectly into TNWs; and RPWWD = Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.

[2] Cowardin codes: L2: Lacustrine-Littoral; US: Unconsolidated Shore; 5: Vegetated; H: Permanently flooded; h: Diked/Impounded; EM: Emergent; R4: Riverine-Intermittent; SB: Streambed; L1: Lacustrine-Limnetic, UB: Unconsolidated Shore.

[3] All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

[4] Coordinates provided for center point or representative location; see Appendix D: ORM Upload Workbook for coordinates of features located throughout the Survey Area.

Table 9. Potential RWQCB Aquatic Resources within the Survey Area

Feature ID	Type	Acres[1]	Linear feet	Width (feet)[2]	Coordinates[3]
RWQCB Waters of the State					
Non-wetland Waters of the State (RWQCB-Exclusive)					
AC-1	Asphalt-lined Channel	<0.01	56	3	32.85426, -116.89552
BD-1	Brow Ditch	0.02	247	3	32.85708, -116.89308
BD-2	Brow Ditch	0.01	139	3	32.85663, -116.89512
BD-3	Brow Ditch	0.01	92	3	32.8566, -116.89526
BD-4	Brow Ditch	0.02	239	3	32.85634, -116.89496
BD-5	Brow Ditch	0.02	250	3	32.85409, -116.89556
CC-1	Concrete-lined Channel	<0.01	21	1	32.85646, -116.89554
CC-2	Concrete-lined Channel	0.01	638	1	32.85401, -116.89447
CC-3	Concrete-lined Channel	0.02	250	1	32.85528, -116.89477
CC-4	Concrete-lined Channel	0.03	426	1	32.85365, -116.89494
CC-5	Concrete-lined Channel	0.01	313	1	32.85387, -116.89526
CC-6	Concrete-lined Channel	<0.01	67	1	32.86117, -116.89230
EC-1[4]	Earthen-lined Channel	0.01	262	0.5	32.85490, -116.89514
RC-1	Rock-lined Channel	<0.01	47	2	32.85651, -116.89563
RC-2	Rock-lined Channel	0.01	286	2	32.85396, -116.89368
Subtotal RWQCB-Exclusive Potential Aquatic Resources		*0.17*	*3331*	--	--
Total RWQCB Potential Aquatic Resources (USACE and RWQCB)		***20.49***	***4305***	--	--

1 All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
2 Widths for artificial channels and brow ditches include total constructed width, earth-lined channel is OHWM width
3 Coordinates provided for center point or representative location; see Appendix D: ORM Upload Workbook for coordinates of features located throughout the Survey Area.
4 This feature is also potentially CDFW Jurisdictional

Table 10. Potential CDFW Aquatic Resources within the Survey Area

Feature ID	Type	Acres[1]	Linear feet	TOB Width (feet)	Dominant Vegetation Type	Coordinates[2]
CDFW Waters of the State						
Riparian Habitat/Wetlands						
NWW-LJ-1	Lake Jennings	0.05	-	-	Eucalyptus Woodland (riparian[3])	32.85776, -116.89206
WW-LJ-1	Lake Jennings	0.11	-	-	Southern Willow Scrub	32.85276, -116.89186
WW-LJ-2	Lake Jennings	0.13	-	-	Eucalyptus Woodland (riparian)	32.85286, -116.89242
WW-LJ-3	Lake Jennings	0.22	-	-	Eucalyptus Woodland (riparian)	32.85334, -116.8925
WW-LJ-4	Lake Jennings	<0.01	-	-	Freshwater Marsh	32.85675, -116.89286
WW-LJ-5	Lake Jennings	0.09	-	-	Eucalyptus Woodland, Southern Willow Scrub	32.85698, -116.89253
WW-LJ-6	Lake Jennings	0.33	-	-	Freshwater Marsh, Eucalyptus Woodland (riparian), Southern Willow Scrub	32.85690, -116.89262
WW-LJ-7	Lake Jennings	0.25	-	-	Freshwater Marsh, Eucalyptus Woodland (riparian), Southern Willow Scrub	32.85881, -116.88924
WW-LJ-8	Lake Jennings	<0.01	-	-	Southern Willow Scrub	32.85851, -116.88884
WW-LJ-9	Lake Jennings	<0.01	-	-	Southern Willow Scrub	32.85860, -116.88864
WW-LJ-10	Lake Jennings	0.13	-	-	Eucalyptus Woodland (riparian), Freshwater Marsh, Ornamental[4]	32.85872, -116.88842
WW-LJ-11	Lake Jennings	0.23	-	-	Eucalyptus Woodland (riparian), Freshwater Marsh	32.85619, -116.88711
WW-LJ-12	Lake Jennings	0.02	-	-	Eucalyptus Woodland (riparian)	32.85585, -116.88737
Subtotal Riparian Habitat/ Wetlands (CDFW)		*1.59*	--	--	--	--
Streambed/Lake/Bank						
EC-1	Earthen-lined Channel	0.03	262	4	Diegan Coastal Sage Scrub, Non-native Grassland	32.85490, -116.89514
NWW-D-1	Ephemeral streambed	0.03	207	8	Diegan Coastal Sage Scrub - Disturbed, Diegan Coastal Sage Scrub, Ornamental	32.85724, -116.8944
NWW-D-2	Ephemeral streambed	0.03	141	12	Diegan Coastal Sage Scrub	32.85671, -116.89489
NWW-D-3	Ephemeral streambed	0.02	110	12	Disturbed Habitat, Ornamental	32.85635, -116.89571
NWW-D-4	Ephemeral streambed	0.02	46	15	Concrete-lined Channel	32.85646, -116.89632
NWW-DS-1	Dam Seepage Channel	<0.01	13	3	Rock-lined Channel	32.85524, -116.89424
NWW-LJ-1	Lake Jennings	19.12	-	-	Open Water, Developed, Diegan Coastal Sage Scrub, Diegan Coastal Sage Scrub - Disturbed, Disturbed Habitat, Ornamental	32.85723, -116.88966
NWW-SP-1	Dam Spillway	0.06	456	4	Spillway	32.85691, -116.89343
Subtotal Streambed/Lake/Bank (CDFW)		*19.32*	*1235*	--	--	--
Total CDFW Potential Aquatic Resources		***20.91***	***1235***	--	--	--

TOB = Top of Bank
[1] All acreages are rounded to the nearest hundredth (which may account for rounding error).
[2] Coordinates provided for center point or representative location.
[3] Composed of red river gum (*Eucalyptus camaldulensis*), which is a FAC species.
[4] Composed of Brazilian pepper tree (*Schinus terebinthifolius*), which is a FAC species.

5.1 Federal Aquatic Resources

5.1.1 Wetland Waters

Areas meeting the USACE's three-parameter wetland definition were identified within the Survey Area (Figure 7). Wetland Determination Data Forms (Arid West Region) were completed for eleven sample points within the Survey Area and are summarized in Table 10. These data forms, along with one OHWM Datasheet, are provided in Appendix C. Photos of these sample points are included in Appendix B (Photos 10, 20-25, 27-30). Lake Jennings is considered to be a Waters of the U.S. under the current definition (33 CFR Part 328) as described above in the Hydrology Section. Therefore, potential federal wetland waters classified as a lacustrine system are present in the form of littoral vegetated shore (riparian woodland, riparian scrub) and littoral emergent (freshwater marsh) along the shoreline of Lake Jennings within the Survey Area. Detailed descriptions of these vegetation communities are provided in Section 3.1. Sample Points WW-2, WW-4, WW-6, WW-8 and WW-10 are located within federal wetlands and indicators of all three wetland parameters and are described in detail below.

Table 11. Wetland Determination Data Form Results

Sample Point	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Jurisdictional Status	
				USACE/RWQCB	CDFW
UP-1	Absent	Absent	Absent	-	-
WW-2	Present	Present	Present	Wetland Waters	Riparian Habitat/Wetland
UP-3	Absent	Absent	Absent	-	-
WW-4	Present	Present	Present	Wetland Waters	Riparian Habitat/Wetland
UP-5	Absent	Absent	Absent	-	-
WW-6	Present	Present	Present	Wetland Waters	Riparian Habitat/Wetland
UP-7	Absent	Absent	Absent	-	-
WW-8	Present	Present	Present	Wetland Waters	Riparian Habitat/Wetland
UP-9	Absent	Absent	Absent	-	-
WW-10	Present	Present	Present	Wetland Waters	Riparian Habitat/Wetland
UP-11	Absent	Absent	Absent	-	-

Hydrophytic Vegetation

Dominance or prevalence of hydrophytic vegetation was determined to be present at five of the eleven sample points and included Sample Points WW-2, WW-4, WW-6, WW-8 and WW-10. Dominant hydrophytic plant species found at these sampling locations included cattail, California bulrush, and red river gum. The six sample points with no dominance or prevalence of hydrophytic vegetation (Sample Points UP-1, UP-3, UP-5, UP-7, UP-9, and UP-11) are located in upland areas and dominants at these locations included weedy species (curly dock, salt heliotrope [*Heliotropium curassavicum*], western ragweed [*Ambrosia psilostachya*] and fountain grass), coastal sage scrub species (laurel sumac, California sagebrush, broom Baccharis) and red river gum.

Hydric Soils

Hydric soils were present in five of the eleven sample points and included Sample Points WW-2, WW-4, WW-6, WW-8 and WW-10. A strong hydrogen sulfide odor (A4) was detected at sampling locations WW-2, WW-4 and WW-6. Additional indicators included Depleted Matrix (F3) at Sample Points WW-4, WW-6, WW-8 and WW-10, with also Depleted Below Dark Surface (A11) at Sample Point WW-6. Soil textures of these hydric soils were largely composed of silt and loam in the upper profile, and silty clay in the lower,

deeper profile. The soil textures associated with sample points having no hydric soil indicators were composed of clay-loam and silty loam.

WETLAND HYDROLOGY

Indicators of wetland hydrology were present at five of the eleven sample points, including Sample Points WW-2, WW-4, WW-6, WW-8 and WW-10. Primary indicators included High Water Table (A2) and Saturation (A3), nonriverine Water Marks (B1), nonriverine Drift Deposits (B3), Water-Stained Leaves (B9), Biotic Crust (B12) Aquatic Invertebrates (B13) and Hydrogen Sulfide Odor (C1); secondary indicators included FAC-Neutral Test (D5). Wetland hydrology is also documented in the OHWM Datasheet provided in Appendix C. Evidence of hydrology as documented in the OHWM Datasheets included presence of bed and bank, a clear ordinary high water mark and sediment deposits and is described further below.

5.1.2 NON-WETLAND WATERS

Boundaries of potential non-wetland waters of the U.S. within the Survey Area were determined by the presence of an OHWM and characterized by an ephemeral to perennial flow regime (Figure 7). An OHWM Datasheet was completed to document the unnamed drainage connected to the dam spillway (NWW-1; Photos 11-19). The Dam spillway (a concrete-lined channel connected to Lake Jennings) appears to feed into the upper limits of an existing drainage, which follows a steep downslope gradient west of the Chet Harritt Dam (feature NWW-D-1). An OHWM approximately one foot wide is present along the upper portion, with banks spanning six to eight feet (Photos 11-13). After crossing under Lake Jennings Park Road through a culvert, the drainage picks up road runoff and the OHWM expands to two feet in width, with banks spanning to greater than 12 feet along the downslope portion (feature NWW-D-2). Water marks and sediment deposits are clearly visible along this segment and trash from the road is present throughout (Photos 14-16). After entering a second culvert that conveys flows under the pump station facilities, the drainage exits a culvert near the western boundary of the Survey Area (Photo 17, feature NWW-D-3) where it converges with a smaller tributary (which has a 0.3-foot OHWM and two-foot banks) and then exits the Survey Area through another series of culverts, concrete-lined channels and a debris guard (Photos 18-19, feature NWW-D-4).

An additional potential non-wetland waters of the U.S. is present at the base of the Chet Harritt Dam (feature NWW-DS-1), where water that seeps through the earthen dam (all earthen dams have some degree of permeability), is consolidated and flows out through a single artificial culvert outlet. This seepage is monitored by Helix Water District as it flows across a short distance within an artificial rock-lined channel and into a collection basin (Photos 8-9) where it then flows over a small weir before it is collected again and pumped back to Lake Jennings. The artificial channel that diverts this flow is considered to be a potential non-wetland waters with a perennial flow regime because of its connectivity to Lake Jennings.

5.1.3 SIGNIFICANT NEXUS EVALUATION

Requirements for determination of whether aquatic features with an intermittent and/or ephemeral flow regime have a significant nexus with a TNW are summarized above in the Methodology Section. The unnamed ephemeral drainage that is connected to the dam spillway (features NWW-D-1 through 4) is a tributary to the San Diego River (which is a TNW along its lower reach) via Lindo Lake, (see also Section 3.2.1, above).

The ephemeral drainage flows approximately 1.4 miles west from the western edge of the Survey Area through a storm drain system consisting of underground pipes, box culverts, earthen channels and concrete-lined channels until it enters Lindo Lake. Lindo Lake is in turn connected to the San Diego River via a culvert located in the northwestern portion of the lake (RECON 2018). The San Diego River is approximately 0.5 miles from Lindo Lake. Although no surface flow was present within the Survey Area

during the dry season, the size of the flood control infrastructure within the Survey Area (Photos 11, 19) indicates that it likely conveys a significant volume of flow during rain events. Review of satellite photos of the areas downstream indicate the feature is vegetated with potential to input nutrients and organic carbon to the downstream TNW (*i.e.,* the lower San Diego River). In addition to physical flow and biological factors, this channel would likely have more than an insignificant chemical effect on the downstream TNW due to the large extent of upstream residential and commercial landcover that may contribute various unknown pollutants to this tributary. Therefore, this unnamed drainage has a potential significant nexus with its downstream TNW.

5.2 State Aquatic Resources

5.2.1 Wetland and CDFW Riparian Habitat

Potential wetland waters of the State and riparian habitat regulated by RWQCB and CDFW occur within the Survey Area and are displayed on Figures 8 and 9, respectively. Potential RWQCB-jurisdictional wetland waters follow USACE-delineated wetlands and occur along the lake shore fringe (Figure 8). Potential CDFW-jurisdictional wetlands include those mapped for USACE and RWQCB, but also includes area that extends beyond the three-parameter federal wetlands to the extent of the riparian canopy associated with the riparian woodland and riparian scrub vegetation communities present within the Survey Area (Figure 9).

5.2.2 Non-wetland Waters of the State

All potential non-wetland waters of the U.S. described above are also concurrent potential non-wetland waters of the State and streambed regulated by RWQCB and CDFW. Additional areas potentially jurisdictional only to RWQCB includes the storm drain infrastructure associated with the water treatment plant and campground access road and are displayed on Figure 8. These include brow ditches, which are constructed at or near the top of slopes to capture surface runoff and provide erosion control, and storm drain channels lined with asphalt, concrete, and rock. These features are potentially jurisdictional to RWQCB because stormwater runoff recharges downstream features such as Lindo Lake, which provides wildlife habitat and supports recreation. Features potentially jurisdictional only to RWQCB are described in Table 9.

An earthen-lined channel that conveys the consolidated stormwater runoff from the water treatment plant (feature EC-1) is present on the slope to the north of the water treatment plant and is potentially only jurisdictional to CDFW and RWQCB. A culvert outfall conveying flows from the water treatment plant exists at the upstream end of this channel (Photos 3 and 4) and is an erosional, steep-banked, channel-like feature supporting dense upland, Diegan coastal sage scrub vegetation (Photo 5). This portion of the channel supports a discontinuous OHWM of approximately 0.5 feet in width. Near the base of the slope, the channel widens to include a large rip-rap apron (Photo 6), below which flows enter a culvert and joins with a concrete-lined channel that drains to a wide swale at the bottom the valley below the dam (Photos 7 and 8). An OHWM is absent within the swale. The channel is not potentially jurisdictional to USACE because it does not support a clear OHWM, have a significant connection with a TNW and appears to be artificial in nature. Although the channel does not support riparian habitat or provide a significant contribution to wildlife habitat, appears to be artificial in nature and only functions to convey stormwater runoff, it is potentially jurisdictional to CDFW because it has distinct banks and appears to convey flows on a limited basis.

CDFW jurisdiction extends beyond the OHWM to the top of streambank. Within the Survey Area, streambeds mapped to the top of the bank include the dam spillway and the various segments of the unnamed drainage connected to it (features NWW-D-1 through 4). Along Lake Jennings, potential CDFW jurisdiction was mapped along non-riparian habitat lake shore areas up to the OHWM because it is an artificial waterbody without distinct, natural banks and because the water level is regulated. This includes

areas mapped as Diegan coastal sage scrub, ornamental, disturbed habitat and developed areas (*i.e.,* along to top of Chet Harritt Dam). In addition, areas mapped as open water within Lake Jennings are included as non-wetland waters potentially jurisdictional to CDFW (feature NWW-LJ-1). Features potentially jurisdictional to CDFW are described in Table 10 and displayed in Figure 9.

5.3 Non-Jurisdictional Features

A swale that does not support an OHWM or hydrophytic/riparian vegetation is present within the Survey Area at the base of the dam (Figures 7-9, Photos 8, 10). This swale represents the nadir of the valley below the Chet Harritt dam and may represent the original channel of Quail Creek before the dam was constructed. However, the swale is rather straight, with uniform slopes and is likely an artificial feature. A detention basin directly connected to the water treatment plant is located slightly above the swale grade and has a culvert outlet that drains into the swale. At the time of the October 18, 2022 field delineation, moist soils and a small patch herbaceous vegetation were present at the base of the culvert outlet. A field investigation was conducted at this location (Wetland Sample Point UP-1) that determined no wetland indicators were present.

Two additional swales occur in the northern portion of the Survey Area, and intersect with Lake Jennings. These swales may represent the upper reaches of a minor tributary to Quail Creek prior to the creation of Lake Jennings, and the lake now inundates the portion of the tributary that would have been potentially jurisdictional. Both swales do not support an OHWM for their entire length, including at their connection with Lake Jennings.

5.4 Deviation from NWI

As shown in comparison to Figure 4, the potential aquatic resources mapped within the Survey Area along the dam spillway and unnamed drainage connected to it are similar to those mapped in the NWI; however, adjustments have been incorporated to reflect current conditions of this non-wetland waters based on presence of culverts and underground sections that are not included in Figures 7-9.

Additionally, the potentially non-jurisdictional swale at the base of the dam was mapped as a freshwater emergent wetland by the NWI, likely because the swale may have historically conveyed the dam seepage flows (as opposed to the current condition, where it is largely piped underground), which may have supported emergent wetland habitat at the time of the NWI mapping efforts.

6.0 DISCUSSION AND CONCLUSIONS

6.1 RECOMMENDATIONS

This ARDR provides the necessary data to support a jurisdictional determination from USACE, RWQCB, CDFW, and the County. Additionally, based on the design and potential construction activities associated with implementation of the proposed project, this ARDR provides the necessary data to determine whether a regulated activity triggers the need for aquatic resource permits. Authorizations from USACE, RWQCB, and CDFW are likely required for implementation of the proposed project because it will involve fill or modification of or impacts to potentially jurisdictional aquatic resources identified in the Survey Area.

6.1.1 USACE SECTION 404 PERMIT

Under Section 404 of the CWA, USACE regulates the discharge of dredged or fill material into waters of the U.S., which include those waters listed in 33 CFR 328.3(c)(7). USACE regulates any activity that would result in the discharge of dredged or fill material into waters of the U.S. USACE must determine that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic resources or if significant degradation would occur to waters of the U.S. The installation of the proposed aeration line (*i.e.,* fill material) within Lake Jennings would be subject to USACE Los Angeles District jurisdiction. This ARDR presents findings to support a USACE determination of whether their jurisdiction extends to the aquatic resources in the Survey Area for the purpose of determining impacts (if applicable) for the proposed Project. If the Project involves regulated activities potentially resulting in a discharge of dredge or fill materials within waters of the U.S., a Section 404 CWA Permit from the USACE may be required. This project may also qualify under Nationwide Permit 59 for water reclamation facilities, as long as the discharge of dredged or fill material does not cause the loss of greater than ½ -acre of waters of the U.S.

6.1.2 RWQCB SECTION 401 WATER QUALITY CERTIFICATION AND WASTE DISCHARGE REQUIREMENTS

Section 401 of the CWA requires states to certify that any activity that may result in a discharge into waters of the U.S. will comply with State water quality standards. All permits issued by USACE under Section 404 of the CWA require certification from the RWQCB pursuant to Section 401. The RWQCB, as delegated by the U.S. EPA and SWRCB, is the State agency responsible for issuing a CWA Section 401 Water Quality Certification or waiver. The proposed Project would likely be subject to RWQCB Region 9 (San Diego) jurisdiction, including installation of portions of the duct bank lines and aeration lines. If the Project involves regulated activities potentially resulting in a discharge of dredge or fill materials within waters of the U.S. and State, a Section 401 CWA Water Quality Certification from the RWQCB may be required.

Section 13263 of the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) authorizes the RWQCB to regulate discharges of waste and fill material to waters of the State, including isolated waters and wetlands through obtaining a Waste Discharge Requirement or Waiver. If the Project involves regulated activities that could result in a discharge of waste and fill materials within waters of the State, including wetlands, that are not covered by a 401 Certification, a Report of Waste Discharge Requirement from the RWQCB may be required.

6.1.3 CDFW SECTION 1600 LAKE OR STREAMBED ALTERATION AGREEMENT

CFGC Sections 1600-1617 require consultation with CDFW if a proposed activity has the potential to detrimentally affect a stream and/or lake, and thereby, wildlife resources that depend on that stream and/or lake for continued viability. Under CFGC Sections 1600 *et seq.*, CDFW regulates activities that would result in (1) any potentially detrimental impacts associated with the substantial diversion or the obstruction of the

natural flow of a stream; (2) substantial changes to the bed, channel, or banks of a stream or lake, or the use of any material from the bed, channel, or banks; and (3) the disposal of debris or waste materials that may pass into a stream or lake. The portion of the proposed Project that encompasses Lake Jennings (lacustrine habitat) and its immediate shore line would be subject to CDFW Region 5 (South Coast Region) jurisdiction. If the Project involves regulated activities that could result in any alteration to riparian habitat and/or a stream or lakebed, a Lake or Streambed Alteration Agreement from CDFW may be required.

6.2 DISCLAIMER STATEMENT

The findings and conclusions presented in this report, including the location and extent of aquatic resource areas subject to regulatory jurisdiction, represent the professional opinion of Lohstroh Biological Consulting. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency. Verification of this ARDR and a jurisdictional determination must be made solely by USACE, RWQCB, and CDFW.

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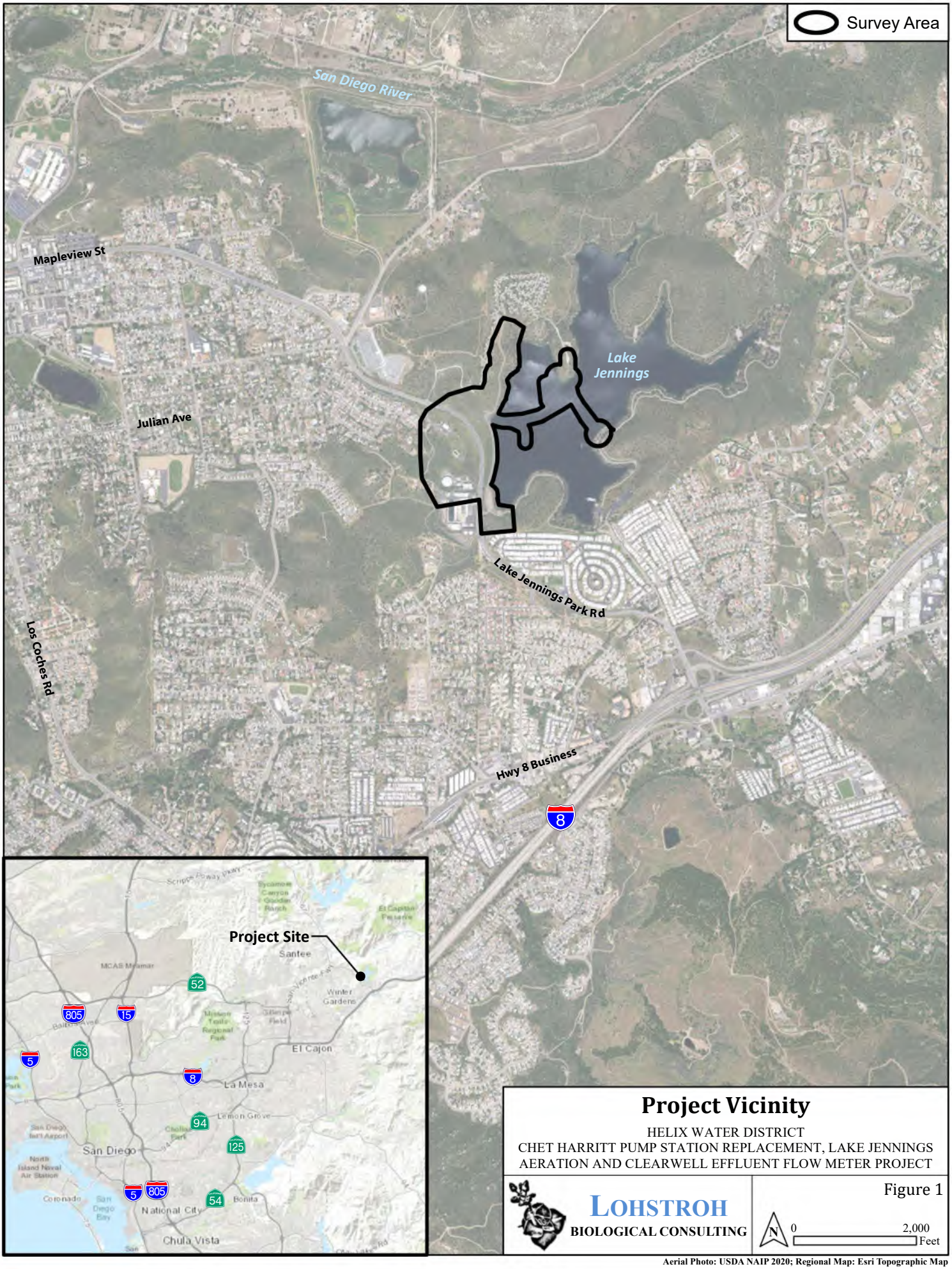
APPENDIX A

Figures



Project Vicinity

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 1

N 0 2,000 Feet

Aerial Photo: USDA NAIP 2020; Regional Map: Esri Topographic Map

Survey Area

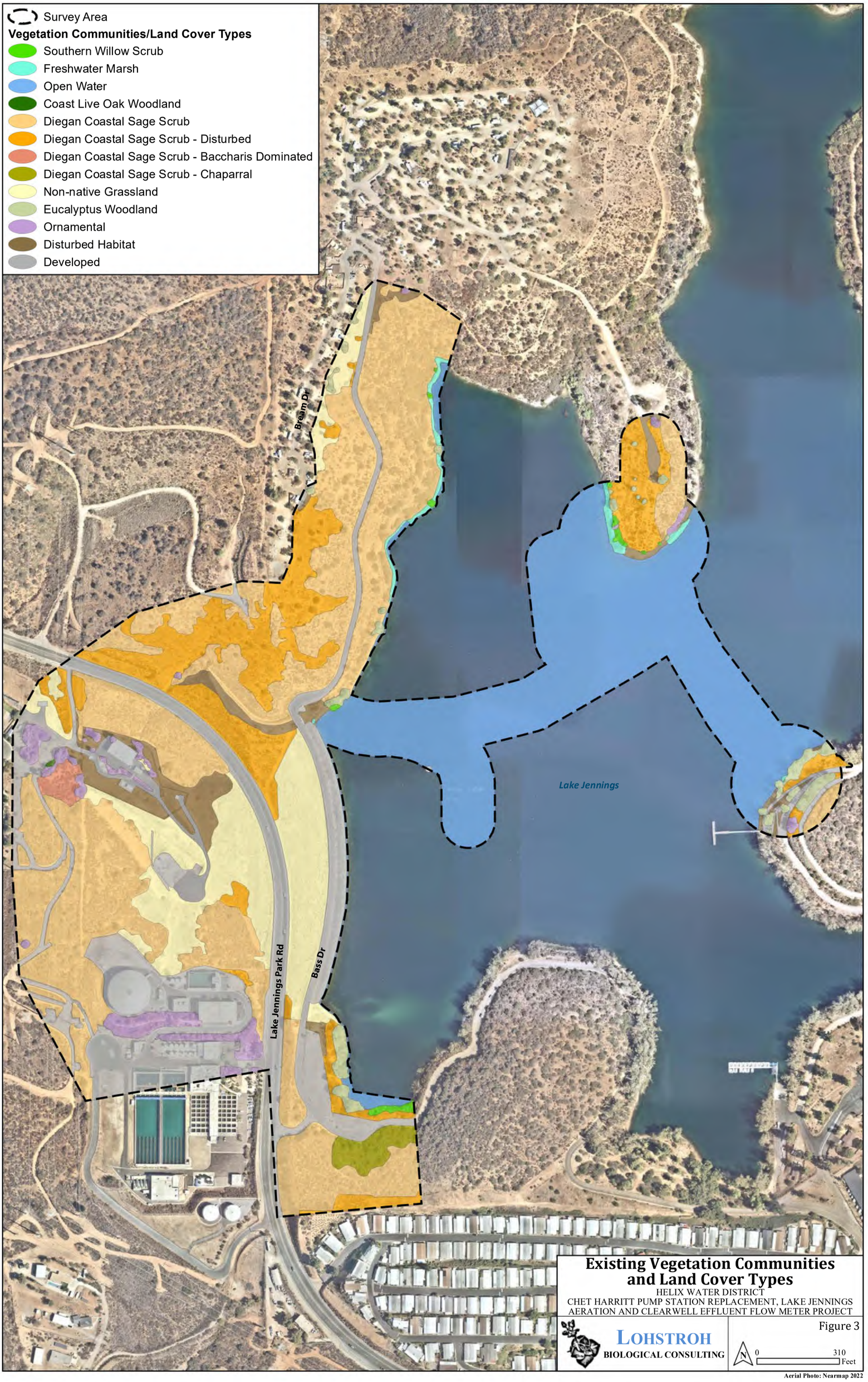
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 2

N 0 310 Feet

Aerial Photo: Nearmap 2022



Existing Vegetation Communities and Land Cover Types

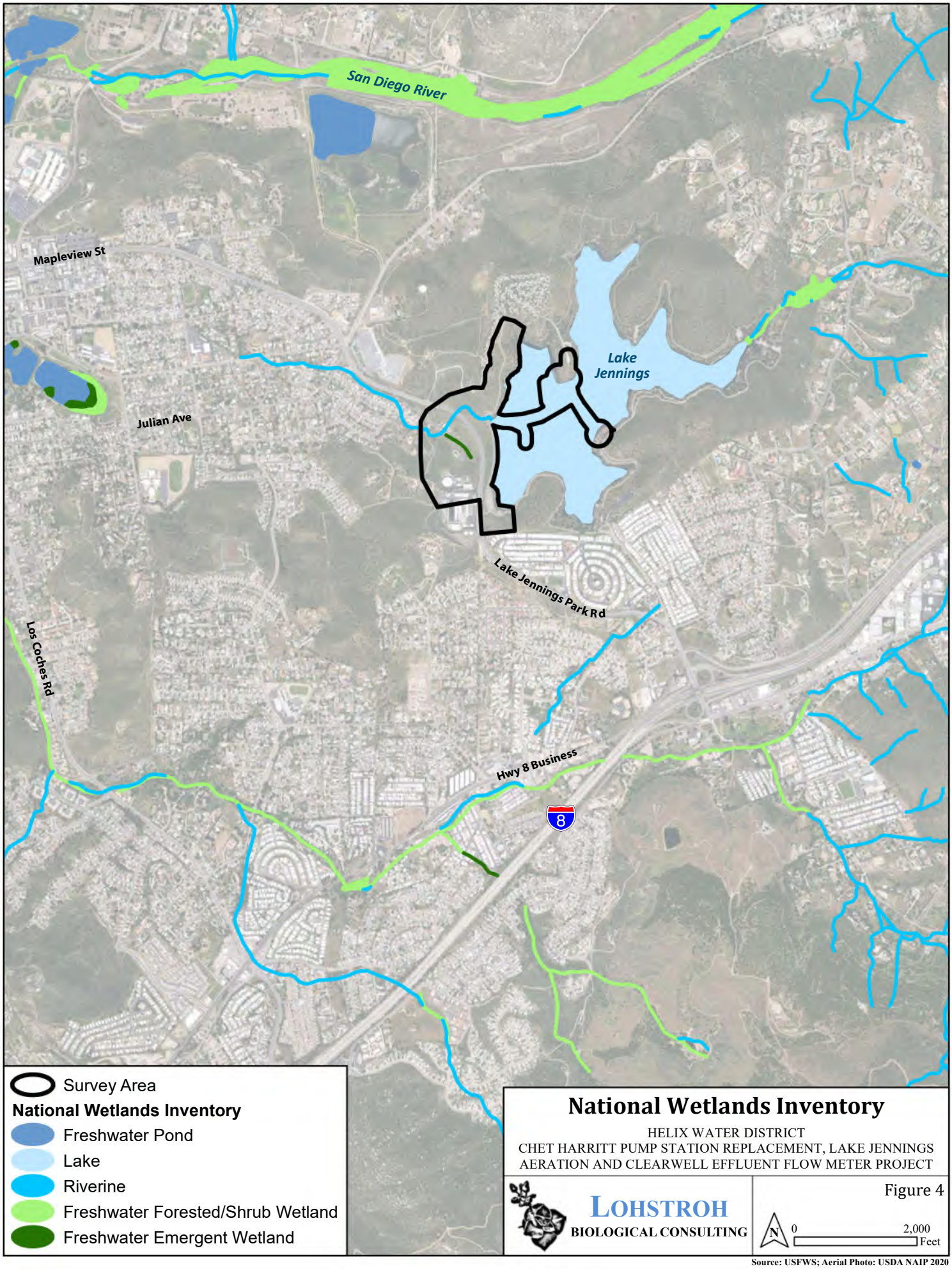
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH BIOLOGICAL CONSULTING

Figure 3

N 0 310 Feet

Aerial Photo: Nearmap 2022



National Wetlands Inventory

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

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Figure 4

N 0 2,000 Feet

Source: USFWS; Aerial Photo: USDA NAIP 2020

Survey Area
Project HUC 12 Watershed (180703040703)

FEMA Flood Hazard Zones
- A
- AE
- AE, FLOODWAY
- D
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- X, AREA OF MINIMAL FLOOD HAZARD

National Hydrography Dataset (NHD)
- Stream/River
- Canal/Ditch
- Connector
- Lake/Pond
- Reservoir
- Dam/Weir
- Inundation Area
- Spillway

San Vicente Reservoir
San Diego River
El Capitan Reservoir
Lake Jennings

National Hydrography Dataset, Watersheds, and FEMA Flood Zones

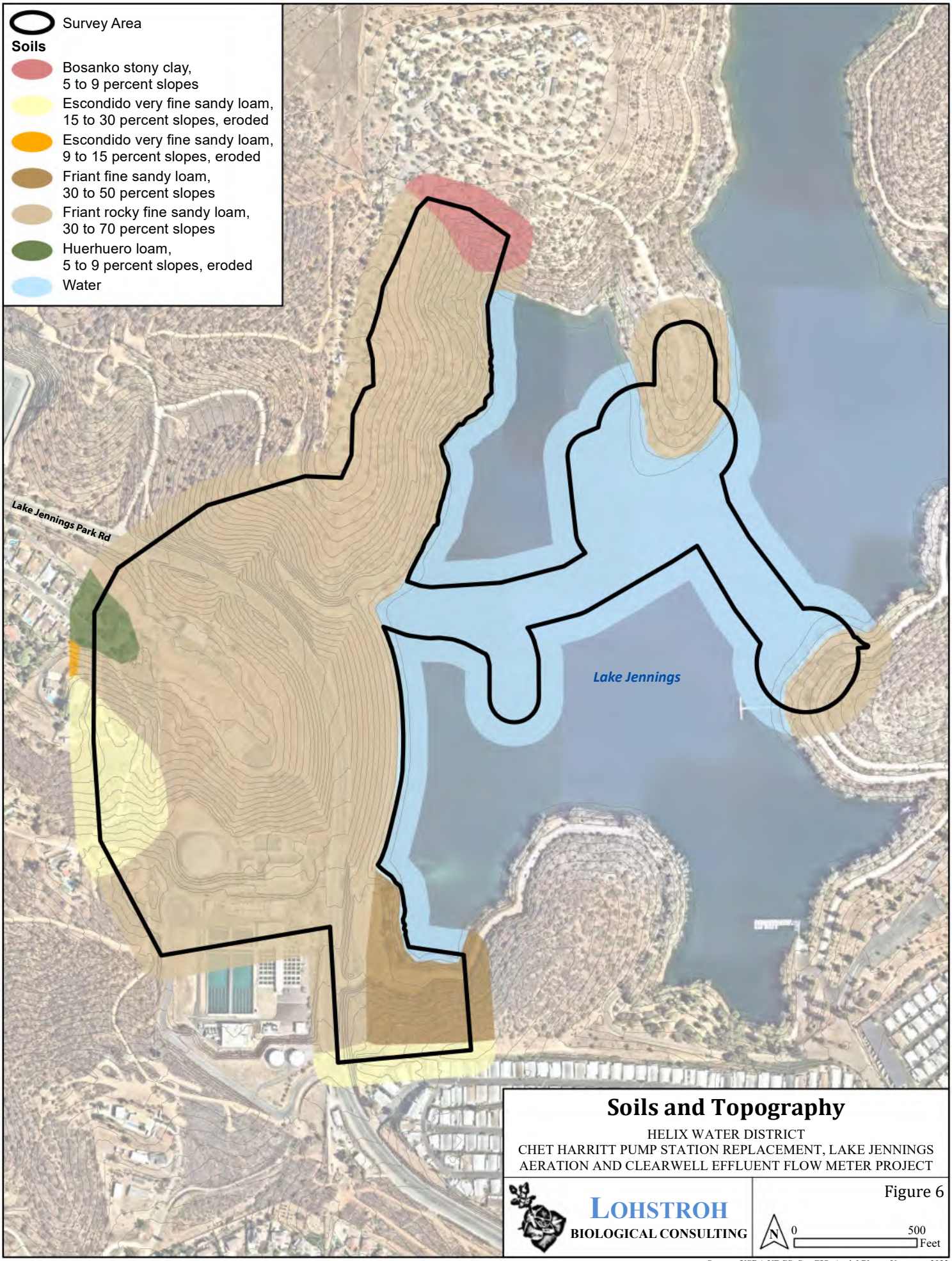
HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH BIOLOGICAL CONSULTING

Figure 5

N 0 4,500 Feet

Source: USGS, FEMA; Aerial Photo: USDA NAIP 2020



Soils and Topography

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 6

N 0 500 Feet

Source: USDA NRCS, SanGIS; Aerial Photo: Nearmap 2022

Study Area
Photo Location
Wetland Sample Point
OHWM Sample Point
Culvert
Drain Inlet
Dam Seepage Outlet
Dam Seepage Weir
Spillway Inlet
Spillway Outlet
Swale

USACE Aquatic Resources

Wetland Waters of the U.S.
Non-wetland Waters of the U.S.
Spillway/Non-wetland Waters of the U.S.
Rock-lined Channel/Non-wetland Waters of the U.S.

32.861305, -116.892146
32.859194, -116.889483
32.856654, -116.896532
32.855871, -116.886525
32.851782, -116.891502

20 UP-3 WW-2 21 WW-LJ-6 NWW-LJ-1
Bream Dr
WW-LJ-7 UP-11 30 WW-10 29 WW-LJ-10 WW-LJ-9 WW-LJ-8
WW-LJ-6 NWW-LJ-1 NWW-LJ-1
NWW-D-1 12 13 11 NWW-SP-1
23 UP-5 22 WW-4 WW-LJ-5 WW-LJ-4
14 15 16 NWW-D-2
19 NWW-D-4 18 17 NWW-D-3
WW-LJ-11 27 WW-8 28 UP-9 WW-LJ-12
Lake Jennings
NWW-LJ-1
10 UP-1 8 6 7
Detail Area
9 NWW-DS-1
4 5 3 1 2
Lake Jennings Park Rd
Bass Dr
26 WW-LJ-3 24 UP-7 25 WW-6 NWW-LJ-1 WW-LJ-2 WW-LJ-1

Potential USACE Aquatic Resources

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH BIOLOGICAL CONSULTING

Figure 7

N 0 310 Feet

Aerial Photo: Nearmap 2022

Study Area
Photo Location
Wetland Sample Point
OHWM Sample Point
Culvert
Drain Inlet
Dam Seepage Outlet
Dam Seepage Weir
Spillway Inlet
Spillway Outlet
Swale

RWQCB Aquatic Resources

Wetland Waters of the State
Non-wetland Waters of the State
Spillway
Asphalt-lined Channel
Concrete-lined Channel
Earthen-lined Channel
Rock-lined Channel
Brow Ditch

32.861305, -116.892146
CC-6
20
UP-3
WW-2
21
WW-LJ-6
NWW-LJ-1
Bream Dr
32.859194, -116.889483
WW-LJ-7
UP-11
30
WW-10
29
WW-LJ-10
WW-LJ-9
WW-LJ-8
WW-LJ-6
NWW-LJ-1
NWW-LJ-1
NWW-D-1
12
13
11
NWW-SP-1
BD-1
23
UP-5
22
WW-4
WW-LJ-5
WW-LJ-4
32.856654, -116.896532
BD-2
BD-3
15
14
NWW-D-2
19
NWW-D-4
RC-1
18
CC-1
16
17
NWW-D-3
BD-4
Lake Jennings
NWW-LJ-1
WW-LJ-11
27
WW-8
28
UP-9
WW-LJ-12
32.855871, -116.886525
10
UP-1
CC-3
8
6
7
Detail Area
9
NWW-DS-1
EC-1
4
5
3
BD-5
AC-1
CC-2
1
2
CC-5
RC-2
CC-4
Lake Jennings Park Rd
Bass Dr
26
WW-LJ-3
UP-7
24
25
WW-6
NWW-LJ-1
WW-LJ-2
WW-LJ-1
32.851782, -116.891502

Potential RWQCB Aquatic Resources

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH
BIOLOGICAL CONSULTING

Figure 8

N 0 310 Feet

Aerial Photo: Nearmap 2022

Study Area
Photo Location
Wetland Sample Point
OHWM Sample Point
Culvert
Drain Inlet
Dam Seepage Outlet
Dam Seepage Weir
Spillway Inlet
Spillway Outlet
Swale

CDFW Riparian Habitat/Wetlands

Southern Willow Scrub
Freshwater Marsh
Eucalyptus Woodland

CDFW Streambed/Lake/Bank

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed
Disturbed Habitat
Non-native Grassland
Ornamental
Open Water
Spillway
Concrete-lined Channel
Rock-lined Channel
Developed

32.861305, -116.892146
32.859194, -116.889483
32.856654, -116.896532
32.855871, -116.886525
32.851782, -116.891502

Bream Dr
Lake Jennings Park Rd
Bass Dr
Lake Jennings

Detail Area

Potential CDFW Aquatic Resources

HELIX WATER DISTRICT
CHET HARRITT PUMP STATION REPLACEMENT, LAKE JENNINGS
AERATION AND CLEARWELL EFFLUENT FLOW METER PROJECT

LOHSTROH BIOLOGICAL CONSULTING

Figure 9

N 0 310 Feet

Aerial Photo: Nearmap 2022

APPENDIX B

Photos

Photo 1. View facing south from the northern portion of the water treatment plant. RWQCB-jurisdictional storm drains are present in foreground (feature CC-2).

Photo 2. View facing north of RWQCB-jurisdictional rock-lined channel draining northeastern portion of water treatment plant (feature RC-2).

Photo 3. View facing northwest of primary culvert inlet draining water treatment plant stormwater runoff, with two RWQCB-jurisdictional channels feeding into it (features AC-1 and BD-5). Culvert is located in northwestern corner of water treatment plant.

Photo 4. View facing southwest at culvert outlet from water treatment plant (inlet visible in Photo 3). Outlet located approximately 120 feet northeast of inlet. This is upstream end of feature EC-1.

Photo 5. View facing northeast along RWQCB and CDFW-jurisdictional earthen-lined channel EC-1 below culvert outlet. This channel has steep-sided, erosional banks with no clear OWHM and only conveys water treatment plant stormwater runoff. No hydrophytic vegetation is present.

Photo 6. View facing south at downstream portion of RWQCB-jurisdictional earthen-lined channel EC-1. Rip-rap, artificial banks and a culvert inlet is visible in foreground.

Photo 7. View facing northwest along concrete-lined channel CC-3 and culvert outlet connected to RWQCB-jurisdictional earthen-lined channel EC-1. This concrete channel flows into a non-jurisdictional swale.

Photo 8. View facing east of non-jurisdictional swale at base of Chet Harritt Dam. No evidence of flow is visible within swale. Caged area at far end of swale encloses the dam seepage channel NWW-DS-1 and weir.

Photo 9. View facing east from within caged area of feature NWW-DS-1. Seepage from the earthen Chet Harritt Dam is consolidated and flows out of walled area in background into the circular drain in foreground where a weir is located to observe and measure the flow. This seepage is then pumped back to Lake Jennings. This short channel is considered jurisdictional to USACE, RWQCB and CDFW.

Photo 10. View facing east along non-jurisdictional swale, culvert outlet of water treatment plant detention basin and Wetland Sample Point UP-1. Although the area supported moist soils and herbaceous vegetation, no wetland indicators were observed.

Photo 11. View facing west from dam spillway outlet (feature NWW-SP-1). Water drops from this vertical-walled channel, down the steeply-sloped, non-wetland waters below (feature NWW-D-1). No hydrophytic vegetation is present along this feature jurisdictional to the USACE, RWQCB and CDFW.

Photo 12. View facing northeast/upstream along non-wetland waters feature NWW-D-1 connected to dam spillway. A OHWM is visible at center, with upland vegetation on either bank.

Photo 13. View facing southwest/downstream along non-wetland waters feature NWW-D-1 connected to dam spillway above road. A culvert inlet is visible at base of Lake Jennings Park Road in background.

Photo 14. View facing southwest/downstream along non-wetland waters feature NWW-D-2 connected to dam spillway below Lake Jennings Park Road. Upland vegetation is present along this feature.

Photo 15. View facing northeast/upstream along non-wetland waters feature NWW-D-2 connected to dam spillway below Lake Jennings Park Road. This is the location of OHWM Sample Point NWW-1.

Photo 16. View facing northeast/upstream along non-wetland waters feature NWW-D-2 connected to dam spillway below Lake Jennings Park Road. Upland vegetation is visible along this feature. The culvert inlet at bottom left conveys flows under the pump station complex.

Photo 17. View facing southwest/downstream from culvert outlet west of pump station. This is non-wetland waters feature NWW-D-3 connected to the dam spillway, flowing through a series of culverts and offsite. An OHWM is visible here.

Photo 18. View facing east/upstream along non-wetland waters feature NWW-D-3 connected to dam spillway below pump station complex. And OHWM is visible, but no hydrophytic vegetation is present here.

Photo 19. View facing east/upstream along non-wetland waters feature NWW-D-4, which is a concrete-lined channel ultimately connected to the dam spillway. This channel conveys flows along this feature offsite, where it appears to continue through a series of culverts and channels to Lindo Lake and/or the San Diego River.

Photo 20. View facing southeast at Wetland Sample Point WW-2. All three wetland parameters were present at this sampling location, indicating this location is a USACE wetland waters (feature WW-LJ-6).

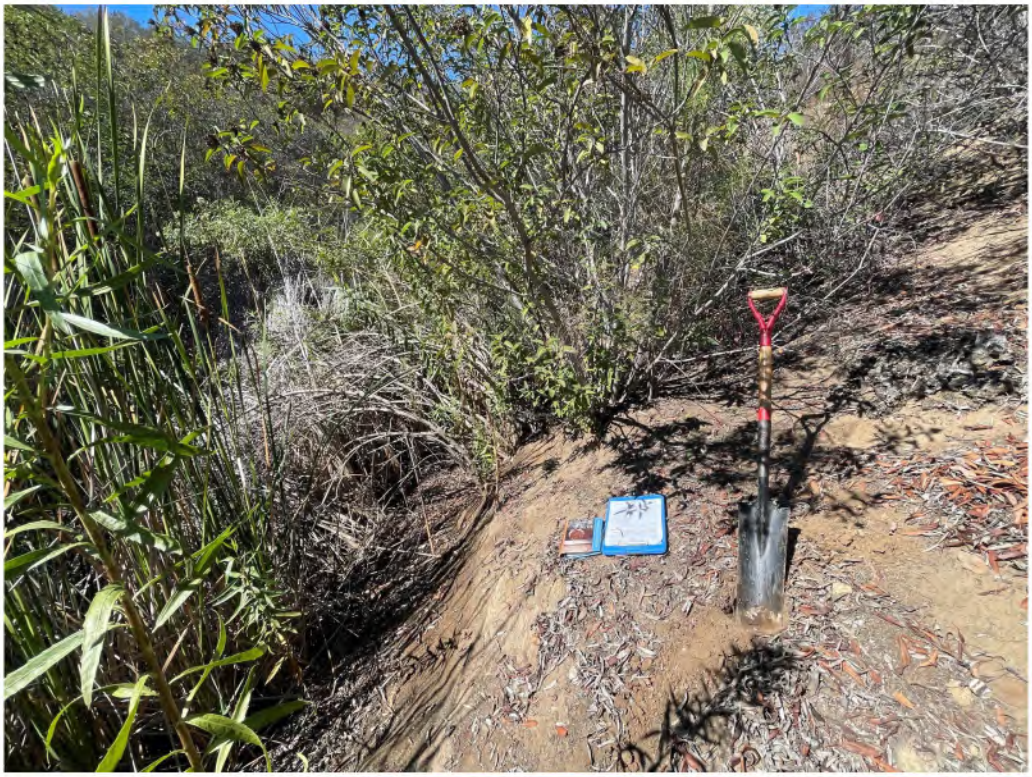


Photo 21. View facing north at Wetland Sample Point UP-3, an upland point paired with Wetland Sample Point 2. Upland vegetation (laurel sumac) is visible within the stratum at right.

Photo 22. View facing south at Wetland Sample Point WW-4. All three wetland parameters were present at this sampling location, indicating this location is a USACE wetland waters (feature WW-LJ-4).

Photo 23. View facing south at Wetland Sample Point UP-5, an upland point paired with Wetland Sample Point 4. Upland vegetation (fountain grass) is visible within the stratum in the foreground.

Photo 24. View facing east at Wetland Sample Point WW-6. All three wetland parameters were present at this sampling location, indicating this location is a USACE wetland waters (feature WW-LJ-3).

Photo 25. View facing northwest at Wetland Sample Point UP-7, an upland point paired with Wetland Sample Point 6. Upland vegetation (fountain grass, broom baccharis, laurel sumac) is visible within the stratum.

Photo 26. View facing north along Chet Harritt Dam from its southern abutment. An OHWM is visible about halfway up the rip-rap slope at center.

Photo 27. View facing southwest at Wetland Sample Point WW-8. All three wetland parameters were present at this sampling location, indicating this location is a USACE wetland waters (feature WW-LJ-11). Drift deposits and an OHWM are visible in the foreground and at left.

Photo 28. View facing northwest at Wetland Sample Point UP-9, an upland point paired with Wetland Sample Point 8. A clear break in the bank indicates the OHWM, visible just to the right of this sample point.

Photo 29. View facing northwest at Wetland Sample Point WW-10, within a recently cut patch of freshwater marsh. All three wetland parameters were present at this sampling location, indicating this location is a USACE wetland waters (feature WW-LJ-7).

Photo 30. View facing northwest at Wetland Sample Point UP-11, an upland point paired with Wetland Sample Point 10. This patch of riparian scrub supports arrow weed and tamarisk.

APPENDIX C

Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station City/County: Lakeside/San Diego Sampling Date: 10/18/22

Applicant/Owner: Helix Water District State: CA Sampling Point: UP-1

Investigator(s): Brian Lohstroh Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): C - Mediterranean California Lat: 32.8556056 Long: -116.8947881 Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes NWI classification: PEM1A

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: Sample point at base of pipe outfall from treatment plant detention basin, within nadir of swale. Soil moisture and dense herbaceous vegetation apparent.

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. Rumex crispus	30	Yes	FAC
2. Heliotropium curassivicum	30	Yes	FACU
3. Ambrosia psilostachya	20	Yes	FACU
4. Euphorbia maculata	10	No	UPL
5. Bromus madritensis rubens	10	No	UPL
6.			
7.			
8.			
Total Cover:	100%		
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: 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	30	x 3 =	90
FACU species	50	x 4 =	200
UPL species	20	x 5 =	100
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.90

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb
Area maintained/mowed.

SOIL

Sampling Point: UP-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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	100					Clay-loam	earthworms present

[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: hardpan

Depth (inches): 10

Hydric Soil Present? Yes ○ No ◉

Remarks:

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: Soil moisture present within small area, but no saturation, water marks or other indicators of hydrology

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station City/County: Lakeside/San Diego Sampling Date: 10/18/22

Applicant/Owner: Helix Water District State: CA Sampling Point: WW-2

Investigator(s): Brian Lohstroh Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Lake shoreline Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C - Mediterranean California Lat: 32.86051 Long: -116.89138 Datum: WGS84

Soil Map Unit Name: Bosanko stony clay, 5 to 9 percent slopes NWI classification: L1UBHh

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: Sample point within patch of FWM along lake shore fringe.

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. Typha latifolia	70	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % % 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: 1 (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	70	x 1 =	70
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	70 (A)		70 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] 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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: WW-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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					fine sandy silt	
8-14	10YR 4/1	100					fine sandy silt	

[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)
- [x] 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [ ] Surface Water (A1)
- [x] High Water Table (A2)
- [x] 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)
- [x] 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)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ( )	No (•)	Depth (inches):
Water Table Present?	Yes (•)	No ( )	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes (•)	No ( )	Depth (inches): 2

Wetland Hydrology Present? Yes (•) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station City/County: Lakeside/San Diego Sampling Date: 10/18/22

Applicant/Owner: Helix Water District State: CA Sampling Point: UP-3

Investigator(s): Brian Lohstroh Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 40

Subregion (LRR): C - Mediterranean California Lat: 32.86055 Long: -116.89136 Datum: WGS84

Soil Map Unit Name: Bosanko stony clay, 5 to 9 percent slopes NWI classification: L1UBHh

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 ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks: Upland point paired with WW-2

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. Malosma laurina	60	Yes	Not Listed
2. Baccharis sarothroides	25	Yes	FACU
3. Heteromeles arbutifolia	10	No	Not Listed
4. Baccharis salicifolia	5	No	FAC
5.			
Total Cover:	100%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 60 % % 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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	25	x 4 =	100
UPL species	70	x 5 =	350
Column Totals:	100 (A)		465 (B)

Prevalence Index = B/A = 4.65

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: UP-3

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Silty 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: rock/hardpan

Depth (inches): 6

Hydric Soil Present? Yes ○ No ◉

Remarks:

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 10/18/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: WW-4

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Lake shore | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): C - Mediterranean California | Lat: 32.85677 | Long: -116.8928763 | Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes | NWI classification: L1UBHh

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: Lake shore point within small area of emergent vegetation.

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. Typha latifolia	60	Yes	OBL
2. Pennesetum setaceum	10	No	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % 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: 1 (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	60	x 1 =	60
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	70 (A)		110 (B)

Prevalence Index = B/A = 1.57

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] 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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb
Area appears maintained/mowed.

SOIL

Sampling Point: WW-4

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1	100					Silty loam	organic layer
3-14	2.5YR 4/2	70	7.5YR 5/8	30	C	M	Silty clay	

[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)
- [x] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5) (**LRR C**)
- [ ] 1 cm Muck (A9) (**LRR D**)
- [x] 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)
- [x] 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [ ] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [x] 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)
- [x] Biotic Crust (B12)
- [ ] Aquatic Invertebrates (B13)
- [x] 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)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ( )	No (●)	Depth (inches):
Water Table Present?	Yes (●)	No ( )	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes (●)	No ( )	Depth (inches): 0

Wetland Hydrology Present? Yes (●) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 10/18/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: UP-5

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): convex | Slope (%): 10

Subregion (LRR): C - Mediterranean California | Lat: 32.85678 | Long: -116.89291 | Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes | NWI classification: L1UBHh

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: Upland point paired with WW-4

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. Pennesetum setaceum	40	Yes	Not Listed
2. Centuarea melitensis	10	No	Not Listed
3. Bromus madritensis	5	No	UPL
4. Salsola tragus	5	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % | % 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (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	5	x 4 =	20
UPL species	55	x 5 =	275
Column Totals:	60 (A)		295 (B)

Prevalence Index = B/A = 4.92

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb
Area maintained/mowed

SOIL

Sampling Point: UP-5

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/3	100					Silty 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: hardpan/riprap

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 10/18/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: WW-6

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Lake shore | Local relief (concave, convex, none): concave | Slope (%): 20

Subregion (LRR): C - Mediterranean California | Lat: 32.85328 | Long: -116.89254 | Datum: WGS84

Soil Map Unit Name: Friant fine sandy loam, 30 to 50 percent slopes | NWI classification: L1UBHh

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: Lake shore point in southern portion of survey area

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Eucalyptus camaldulensis	70	Yes	FAC
2. Washingtonia robusta	5	No	FACW
3.			
4.			
Total Cover:	75 %		
Sapling/Shrub Stratum			
1. Baccharis sarothoides	5	No	FACU
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. Schenoplectus californicus	80	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	70	x 3 =	210
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	160 (A)		320 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] 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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: WW-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1	80	G2 3/5PB	20	RM	M	Silty 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)
- [x] 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)
- [x] 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: Riprap/rock

Depth (inches): 5

Hydric Soil Present? Yes (•) No ( )

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [ ] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [x] Water Marks (B1) (**Nonriverine**)
- [ ] Sediment Deposits (B2) (**Nonriverine**)
- [x] Drift Deposits (B3) (**Nonriverine**)
- [ ] Surface Soil Cracks (B6)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [x] Water-Stained Leaves (B9)
- [ ] Salt Crust (B11)
- [ ] Biotic Crust (B12)
- [ ] Aquatic Invertebrates (B13)
- [x] 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)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ( ) No (•) Depth (inches):

Water Table Present? Yes (•) No ( ) Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes (•) No ( ) Depth (inches): 2

Wetland Hydrology Present? Yes (•) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 10/18/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: UP-7

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 30

Subregion (LRR): C - Mediterranean California | Lat: 32.8532873 | Long: -116.8925531 | Datum: WGS84

Soil Map Unit Name: Friant fine sandy loam, 30 to 50 percent slopes | NWI classification: L1UBHh

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: Upland point paired with WW-6

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Eucalyptus camaldulensis	20	Yes	FAC
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1. Baccharis sarothroides	40	Yes	FACU
2. Malosma laurina	20	Yes	Not Listed
3.			
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1. Pennesetum setaceum	30	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	40	x 4 =	160
UPL species	50	x 5 =	250
Column Totals:	110 (A)		470 (B)

Prevalence Index = B/A = 4.27

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: UP-7

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/4	100					Clay 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: roots/rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 11/9/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: WW-8

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Lake Shore | Local relief (concave, convex, none): Concave | Slope (%): 30

Subregion (LRR): C - Mediterranean California | Lat: 32.85616 | Long: -116.88709 | Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes | NWI classification: L1UBHh

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:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Eucalyptus camaldulensis	20	Yes	FAC
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. Schenoplectus californicus	80	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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	80	x 1 =	80
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		140 (B)

Prevalence Index = B/A = 1.40

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] 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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: WW-8

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/2	80	G1 5/5GY	20	RM	M	Silty clay-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:

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station | City/County: Lakeside/San Diego | Sampling Date: 11/9/22

Applicant/Owner: Helix Water District | State: CA | Sampling Point: UP-9

Investigator(s): Brian Lohstroh | Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 40

Subregion (LRR): C - Mediterranean California | Lat: 32.85614 | Long: -116.88706 | Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes | NWI classification: L1UBHh

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: Upland point paired with WW-8

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. Eucalyptus camaldulensis	10	Yes	FAC
2. Baccharis salicifolia	5	No	FAC
3. Artemisia californica	10	Yes	Not Listed
4. Baccharis sarothroides	2	No	FACU
5.			
Total Cover:	27 %		
Herb Stratum			
1. Muhlenbergia rigens	10	Yes	FAC
2. Bromus madritensis	10	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 80 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	25	x 3 =	75
FACU species	2	x 4 =	8
UPL species	20	x 5 =	100
Column Totals:	47 (A)		183 (B)

Prevalence Index = B/A = 3.89

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: UP-9

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 3/4	100					Clay-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:

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station City/County: Lakeside/San Diego Sampling Date: 11/9/22

Applicant/Owner: Helix Water District State: CA Sampling Point: WW-10

Investigator(s): Brian Lohstroh Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Lake shore Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): C - Mediterranean California Lat: 32.85854 Long: -116.88916 Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes NWI classification: L1UBHh

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: Vegetation cleared in general area to allow for fishing access.

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. Typha latifolia	95	Yes	OBL
2. Bacopa monnieri	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % % 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: 1 (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	100	x 1 =	100
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] 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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: WW-10

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	80	G2 4/5BG	20	RM	M	Silty clay-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)
- [x] 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: Rock

Depth (inches): 12

Hydric Soil Present? Yes (•) No ( )

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [x] 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)
- [x] 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)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ( ) No (•) Depth (inches):

Water Table Present? Yes (•) No ( ) Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes (•) No ( ) Depth (inches): 8

Wetland Hydrology Present? Yes (•) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Clam shells in soil horizon

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chet Harritt Pump Station City/County: Lakeside/San Diego Sampling Date: 11/9/22

Applicant/Owner: Helix Water District State: CA Sampling Point: UP-11

Investigator(s): Brian Lohstroh Section, Township, Range: (El Cajon) Unsectioned, T15 S, R1 E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 15

Subregion (LRR): C - Mediterranean California Lat: 32.85860 Long: -116.88908 Datum: WGS84

Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes NWI classification: L1UBHh

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: Upland point paired with WW-10

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. Pluchea sericea	30	Yes	FACW
2. Artemisia californica	20	Yes	Not Listed
3. Tamarix ramossima	10	No	FAC
4. Baccharis sarothroides	10	No	FACU
5. Gutierrezia californica	10	No	Not Listed
Total Cover:	80 %		
Herb Stratum			
1. Bromus madritensis	10	Yes	UPL
2. Centaurea melitensis	5	No	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	15 %		
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: 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	30	x 2 =	60
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	45	x 5 =	225
Column Totals:	95 (A)		355 (B)

Prevalence Index = B/A = 3.74

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: Plot size= 30 feet for tree, 15 feet for shrub, and 5 feet for herb

SOIL

Sampling Point: UP-11

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 Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/4	100					Silty 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: Rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

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:

OHWM Delineation Cover Sheet

Project: Chet Harritt Pump Station **Date:** 10/18/22

Location: Lake Jennings Lakeside, CA **Investigator(s):** Brian Lohstroh

Project Description:

Helix Water District proposes the following improvements to its facilities: replacement of the current Chet Harritt Pump Station (circa 1970) with a new pump station; implementation of an aeration system within Lake Jennings; and installation of an effluent flow meter for the existing 5.3 million gallon-capacity Clearwell Tank. These Project components also include installation of an electrical duct bank between an electrical vault east of the Clearwell Tank and the new pump station, air supply pipelines between the pump station and Lake Jennings, an air supply loop line option that connects to the air supply line at the dam and enters Lake Jennings approximately 800 feet to the north, removal of an existing air compressor and air supply piping on the east side of the dam, enhancements to the existing dam seepage weir, and replacement of the dam weir sump near the pump station.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Steep rocky drainage connected to dam spillway also picks up road runoff. Roadside trash throughout drainage.

Off-site Information

Remotely sensed image(s) acquired? ☑ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Aerial photos from various sources used (ESRI, Google, Apple Maps, etc.). Transect lines and point locations collected with a submeter GPS unit and plotted with ArcGIS Field Maps app on mobile device.

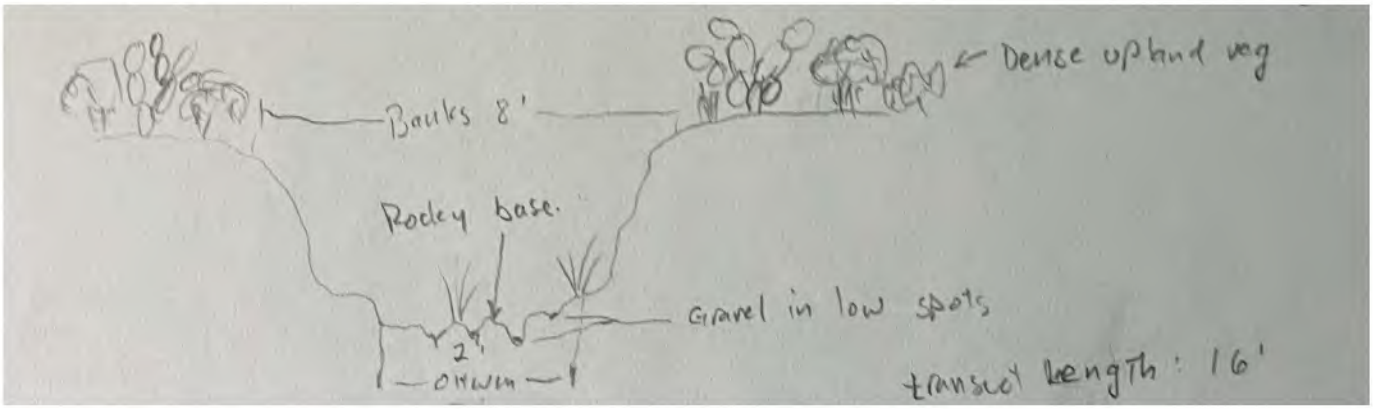
Hydrologic/hydraulic information acquired? ☐ **Yes** ☑ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

None

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☑ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Steep banks of soil down to bedrock.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	70	10	20			Y
Below OHWM			5	10	85	N

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	70	10	20
Below OHWM	0	5	20	75

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Roadside trash conveyed downstream via occasional flows.

APPENDIX D

ORM Upload Workbook

APPENDIX D

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
WW-LJ-1	CALIFORNIA	L2US5Hh		Area	0.06695049	ACRE	IMPNDMNT	32.85277269	-116.8918649
WW-LJ-2	CALIFORNIA	L2US5Hh		Area	0.05104672	ACRE	IMPNDMNT	32.85284434	-116.8923859
WW-LJ-3	CALIFORNIA	L2US5Hh		Area	0.06977002	ACRE	IMPNDMNT	32.85333868	-116.89250729
WW-LJ-4	CALIFORNIA	L2EMHh		Area	0.00418275	ACRE	IMPNDMNT	32.85675149	-116.89285751
WW-LJ-5	CALIFORNIA	L2US5Hh		Area	0.03150536	ACRE	IMPNDMNT	32.85697852	-116.89253314
WW-LJ-6	CALIFORNIA	L2EMHh/L2US5Hh		Area	0.31894906	ACRE	IMPNDMNT	32.85935494	-116.89154224
WW-LJ-7	CALIFORNIA	L2EMHh/L2US5Hh		Area	0.17768735	ACRE	IMPNDMNT	32.85880791	-116.88923790
WW-LJ-8	CALIFORNIA	L2US5Hh		Area	0.00339981	ACRE	IMPNDMNT	32.85850653	-116.88883815
WW-LJ-9	CALIFORNIA	L2US5Hh		Area	0.00178628	ACRE	IMPNDMNT	32.85860061	-116.88863801
WW-LJ-10	CALIFORNIA	L2EMHh/L2US5Hh		Area	0.06846012	ACRE	IMPNDMNT	32.85865770	-116.88855090
WW-LJ-11	CALIFORNIA	L2EMHh/L2US5Hh		Area	0.11136318	ACRE	IMPNDMNT	32.85633843	-116.88688699
WW-LJ-12	CALIFORNIA	L2US5Hh		Area	0.00947167	ACRE	IMPNDMNT	32.85584878	-116.88736659
NWW-D-1	CALIFORNIA	R4SB		Linear	207.223639	FOOT	NRPW	32.85722017	-116.89443988
NWW-D-2	CALIFORNIA	R4SB		Linear	141.374247	FOOT	NRPW	32.85672826	-116.89487752
NWW-D-3	CALIFORNIA	R4SB		Linear	110.14233	FOOT	NRPW	32.85635173	-116.89578880
NWW-D-4	CALIFORNIA	R4SB		Linear	46.0772078	FOOT	NRPW	32.85646145	-116.89632271
NWW-DS-1	CALIFORNIA	R4SB		Linear	13.0649859	FOOT	NRPW	32.85523752	-116.89423552
NWW-LJ-1	CALIFORNIA	L1UBHh		Area	19.3229047	ACRE	IMPNDMNT	32.85716869	-116.88973242
NWW-SP-1	CALIFORNIA	R4SB		Linear	455.778752	FOOT	NRPW	32.85690828	-116.89343333

APPENDIX E

SDAM Classification Report

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
Chet Harritt Pump Station Improvements Project

Site code or identifier:

Assessor(s):
3951521000, 3951600600, 3951303800, 3953001500, 3951303000, 3951303900, 3951304000, and 3951400100.

Waterway name:
Unnamed tributary to Quail Canyon

Visit date:
10/18/2022

Current weather conditions (check one)
- ☐ Storm/heavy rain
- ☐ Steady rain
- ☐ Intermittent rain
- ☐ Snowing
- ☐ Cloudy (___ % cover)
- ▣ Clear/Sunny

Notes on current or recent weather conditions (e.g., precipitation in previous week):
Less than 0.5" of rain in the last week.

Coordinates at downstream end (decimal degrees):
Lat (N): 32.856500,
Long (W): -116.896382
Datum: WGS84

Surrounding land-use within 100 m (check one or two):
- ▣ Urban/industrial/residential
- ☐ Agricultural (farmland, crops, vineyards, pasture)
- ☐ Developed open-space (e.g., golf course)
- ☐ Forested
- ☐ Other natural
- ☐ Other: _____

Describe reach boundaries:
Drainage connected to dam spillway, flows within earthen channel, culverts, and concrete-line channel.

Mean channel width (m)
0.5

Reach length (m):
40x width; min 40 m; max 200 m.
961

Enter photo ID, or check if completed
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

Disturbed or difficult conditions (check all that apply):
- ☐ Recent flood or debris flow
- ▣ Stream modifications (e.g., channelization)
- ☐ Diversions
- ☐ Discharges
- ▣ Drought
- ☐ Vegetation removal/limitations
- ☐ Other (explain in notes)
- ☐ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
Dry conditions throughout.

Site sketch:

1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area ▣ No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID

Notes on hydrophytic vegetation:

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

Number of individuals quantified:
- ▣ None
- ☐ 1 to 19
- ☐ 20 +

(Do not count mosquitos)

Photo ID:_____

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No

Ephemeroptera larva
Image credit: Dieter Tracey

Plecoptera larva
Tracey Saxby

Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates:

4. Algal Cover

Are algae found on the streambed?		Notes on algae cover:	Photo ID:
☐ Check if *all* observed algae appear to be deposited from an upstream source.	▣ Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)		

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes ▣ No, no fish ☐ No, only non-native mosquitofish		
Algae cover ≥ 10%	☐ Yes ▣ No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description

Additional notes about the assessment:

Classification: Ephemeral

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None ✔	None ✔	Absent ✔	Absent ✔	Absent ✔	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

APPENDIX F

Climatological Data

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

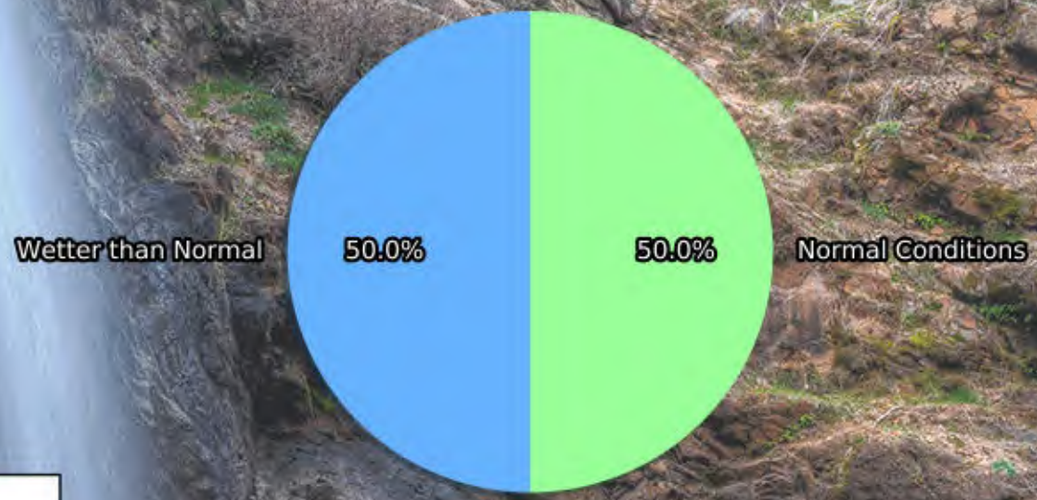
Generated on 2022-10-25

User Inputs

Coordinates	32.85555, -116.894305
Date	2022-10-18
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	180703040703
Watershed Size	52.11 mi^2
# Random Sampling Points	6



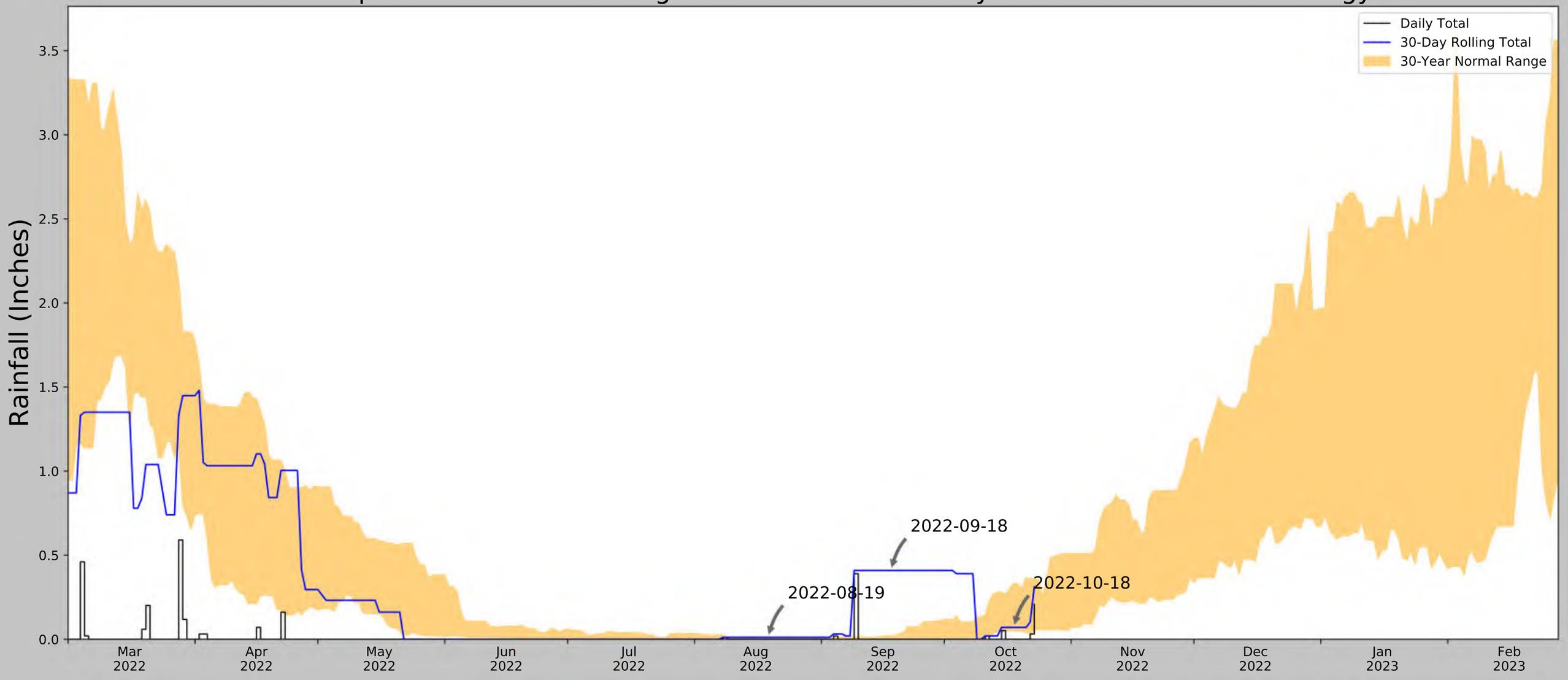
Preliminary Result

Average Antecedent Precipitation Score	14.5
Preliminary Determination	Normal Conditions

Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
15	Wetter than Normal	Dry Season	Extreme drought (2022-09)	3
14	Normal Conditions	Dry Season	Extreme drought (2022-09)	3

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.85555, -116.894305
Observation Date	2022-10-18
Elevation (ft)	530.08
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

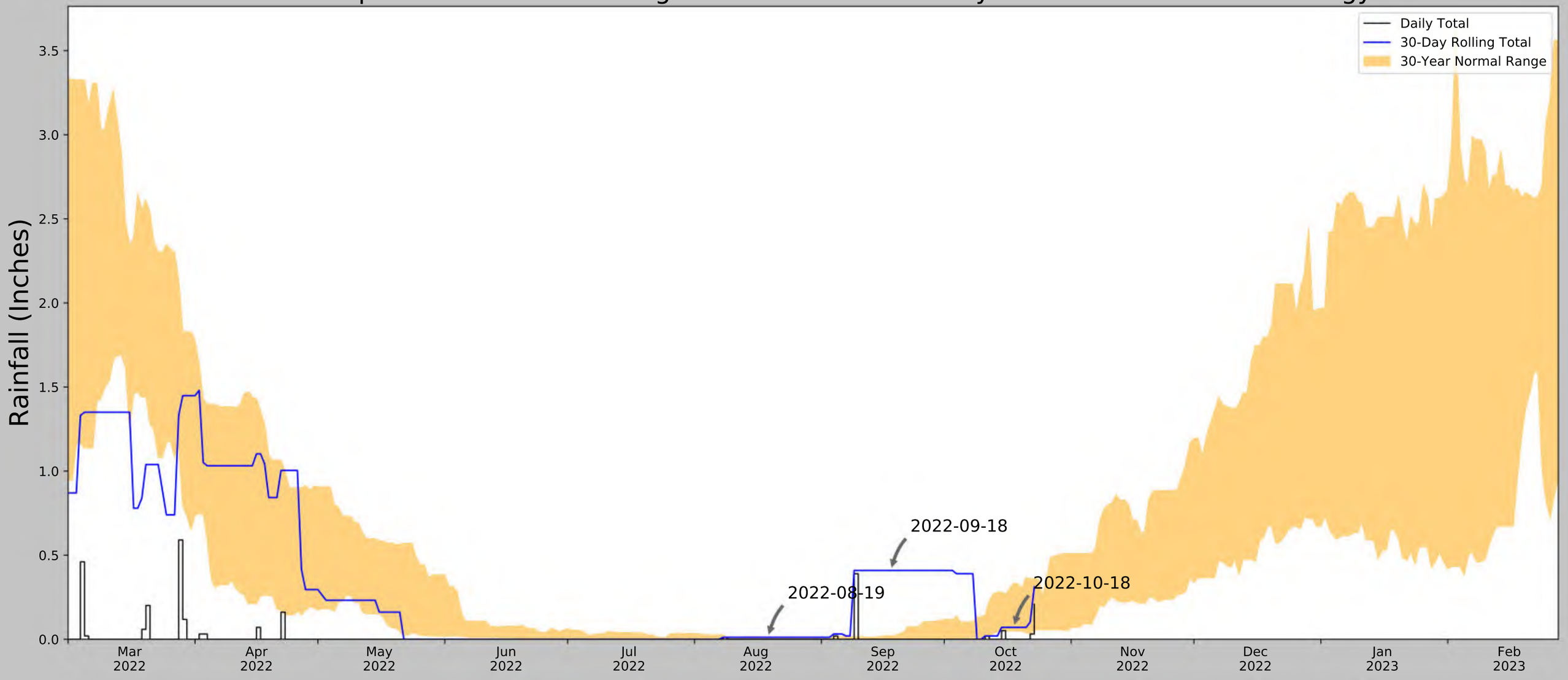
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.051181	0.332283	0.070866	Normal	2	3	6
2022-09-18	0.0	0.019685	0.409449	Wet	3	2	6
2022-08-19	0.0	0.003543	0.011811	Wet	3	1	3
Result							Wetter than Normal - 15

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN DIEGO MONTGOMERY FLD	32.8158, -117.1394	416.995	14.491	113.085	8.16	8936	90
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	1.261	8.858	0.579	1	0
SAN DIEGO 1.9 W	32.8139, -117.1693	366.142	1.741	50.853	0.872	4	0
SAN DIEGO 3.2 WNW	32.8353, -117.1859	374.016	3.017	42.979	1.487	4	0
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	3.535	60.039	1.803	2404	0
SAN DIEGO 7.9NE	32.8057, -117.0732	242.126	3.907	174.869	2.441	1	0
LA MESA	32.7675, -117.0233	529.856	7.524	112.861	4.235	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.888737, -116.886548
Observation Date	2022-10-18
Elevation (ft)	530.08
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.051181	0.332283	0.070866	Normal	2	3	6
2022-09-18	0.0	0.019685	0.409449	Wet	3	2	6
2022-08-19	0.0	0.003543	0.011811	Wet	3	1	3
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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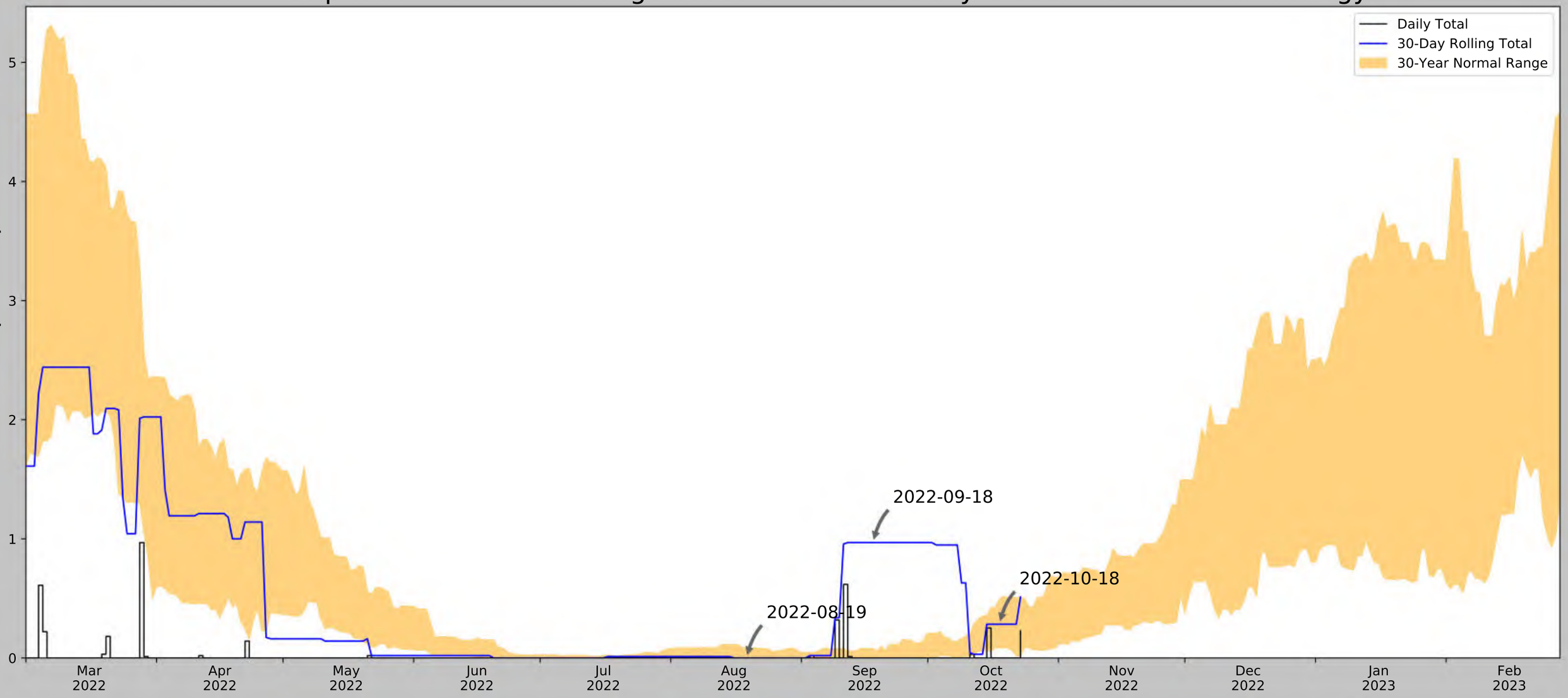
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation	Weighted	Days Normal	Days Antecedent
SAN DIEGO MONTGOMERY FLD	32.8158, -117.1394	416.995	15.518	113.085	8.738	8936	90
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	1.261	8.858	0.579	1	0
SAN DIEGO 1.9 W	32.8139, -117.1693	366.142	1.741	50.853	0.872	4	0
SAN DIEGO 3.2 WNW	32.8353, -117.1859	374.016	3.017	42.979	1.487	4	0
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	3.535	60.039	1.803	2404	0
SAN DIEGO 7.9NE	32.8057, -117.0732	242.126	3.907	174.869	2.441	1	0
LA MESA	32.7675, -117.0233	529.856	7.524	112.861	4.235	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.869603, -116.821484
Observation Date	2022-10-18
Elevation (ft)	1408.28
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.087008	0.49252	0.283465	Normal	2	3	6
2022-09-18	0.011811	0.079134	0.968504	Wet	3	2	6
2022-08-19	0.0	0.084646	0.0	Normal	2	1	2
Result							Normal Conditions - 14

Figure and tables made by the
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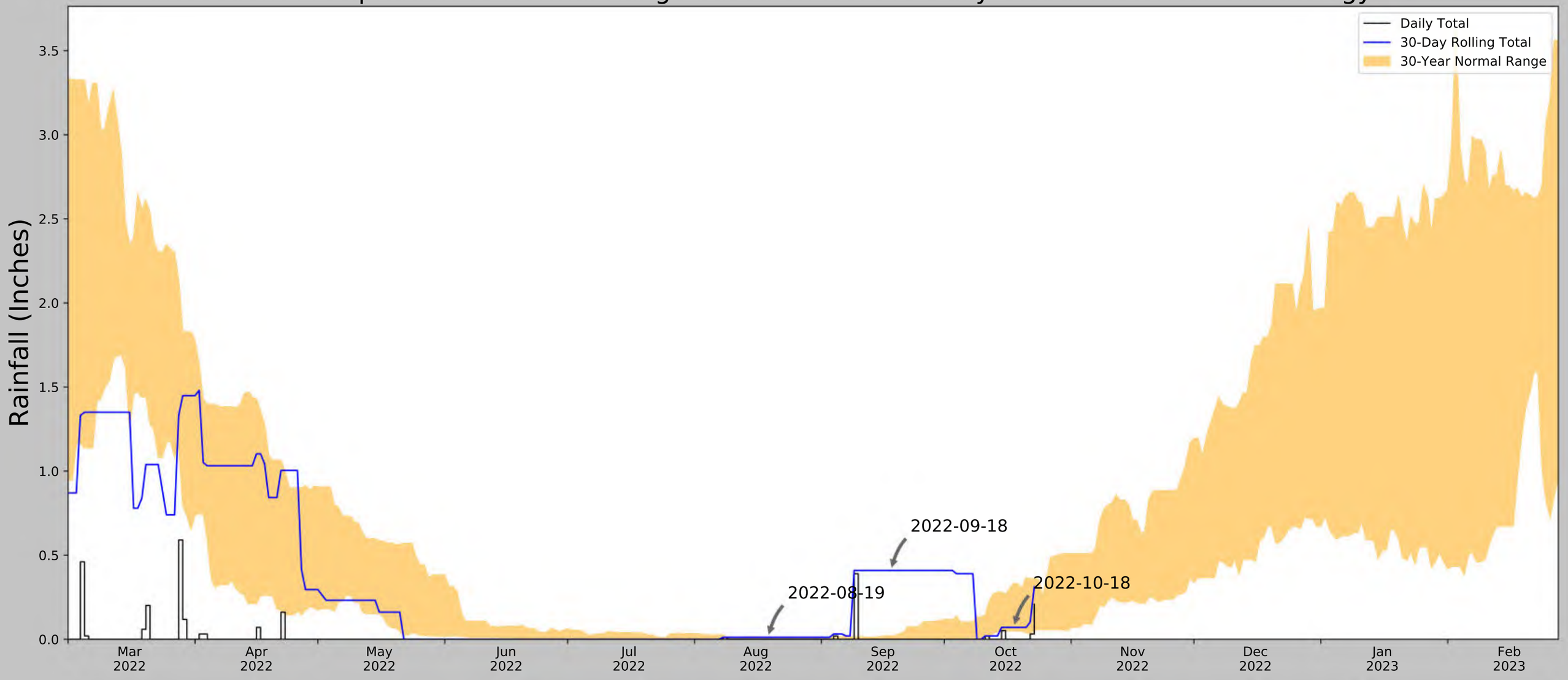
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation	Weighted	Days Normal	Days Antecedent
RAMONA AP	33.0375, -116.9158	1393.045	12.825	15.235	5.967	8877	90
RAMONA FIRE DEPT	33.0114, -116.9081	1470.144	1.858	77.099	0.979	2207	0
ESCONDIDO 7.2 SE	33.0563, -116.9925	1584.974	4.628	191.929	2.971	1	0
SAN DIEGO COUNTRY ESTATES 1.5	33.0158, -116.8068	1474.081	6.49	81.036	3.446	9	0
POWAY 3.2NE	32.9956, -117.0044	1206.037	5.893	187.008	3.754	3	0
POWAY VALLEY	33.0194, -117.0308	647.966	6.778	745.079	8.1	225	0
SAN PASQUAL ANIMAL PK	33.0956, -116.9975	419.948	6.204	973.097	8.829	31	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.847555, -116.962197
Observation Date	2022-10-18
Elevation (ft)	355.74
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

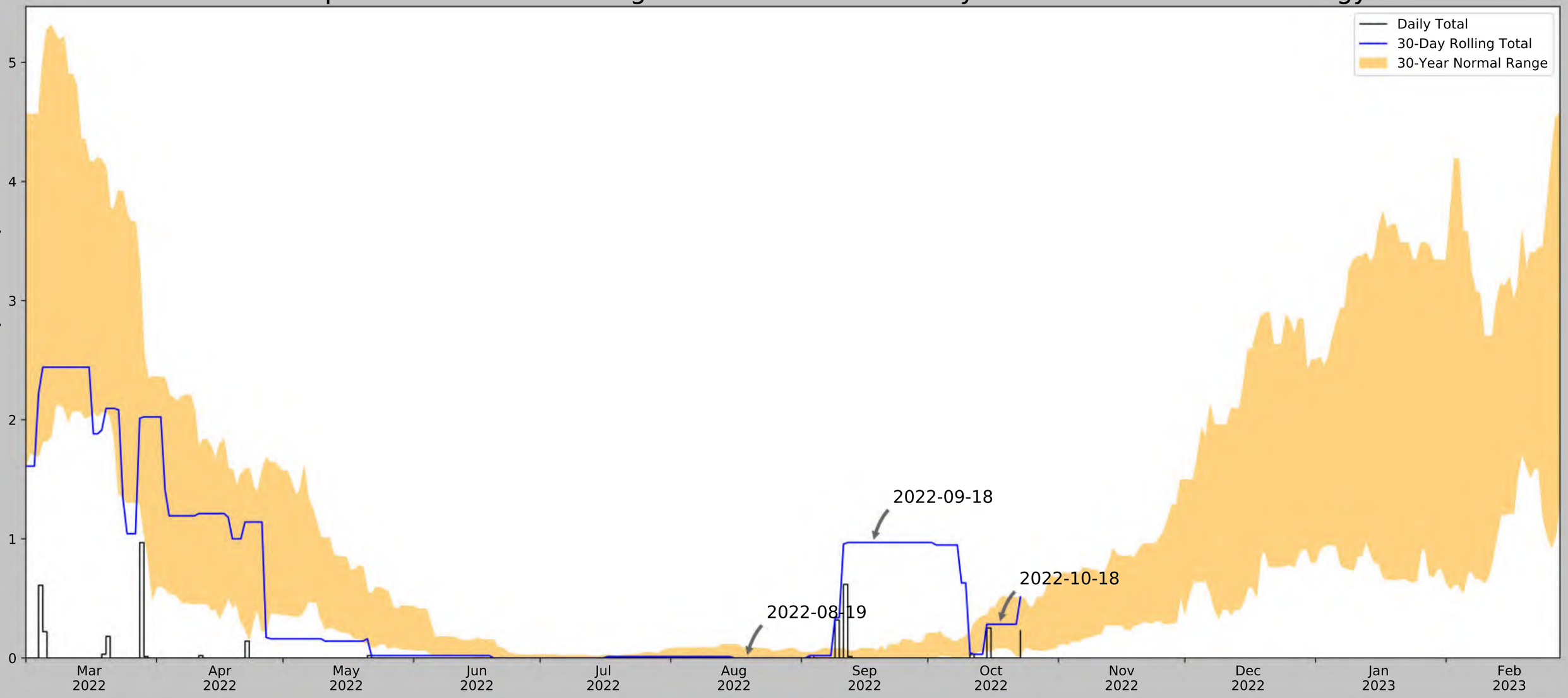
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.051181	0.332283	0.070866	Normal	2	3	6
2022-09-18	0.0	0.019685	0.409449	Wet	3	2	6
2022-08-19	0.0	0.003543	0.011811	Wet	3	1	3
Result							Wetter than Normal - 15

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation	Weighted	Days Normal	Days Antecedent
SAN DIEGO MONTGOMERY FLD	32.8158, -117.1394	416.995	10.519	61.255	5.378	8936	90
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	1.261	8.858	0.579	1	0
SAN DIEGO 1.9 W	32.8139, -117.1693	366.142	1.741	50.853	0.872	4	0
SAN DIEGO 3.2 WNW	32.8353, -117.1859	374.016	3.017	42.979	1.487	4	0
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	3.535	60.039	1.803	2404	0
SAN DIEGO 7.9NE	32.8057, -117.0732	242.126	3.907	174.869	2.441	1	0
LA MESA	32.7675, -117.0233	529.856	7.524	112.861	4.235	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.833499, -116.885651
Observation Date	2022-10-18
Elevation (ft)	915.83
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.087008	0.49252	0.283465	Normal	2	3	6
2022-09-18	0.011811	0.079134	0.968504	Wet	3	2	6
2022-08-19	0.0	0.084646	0.0	Normal	2	1	2
Result							Normal Conditions - 14

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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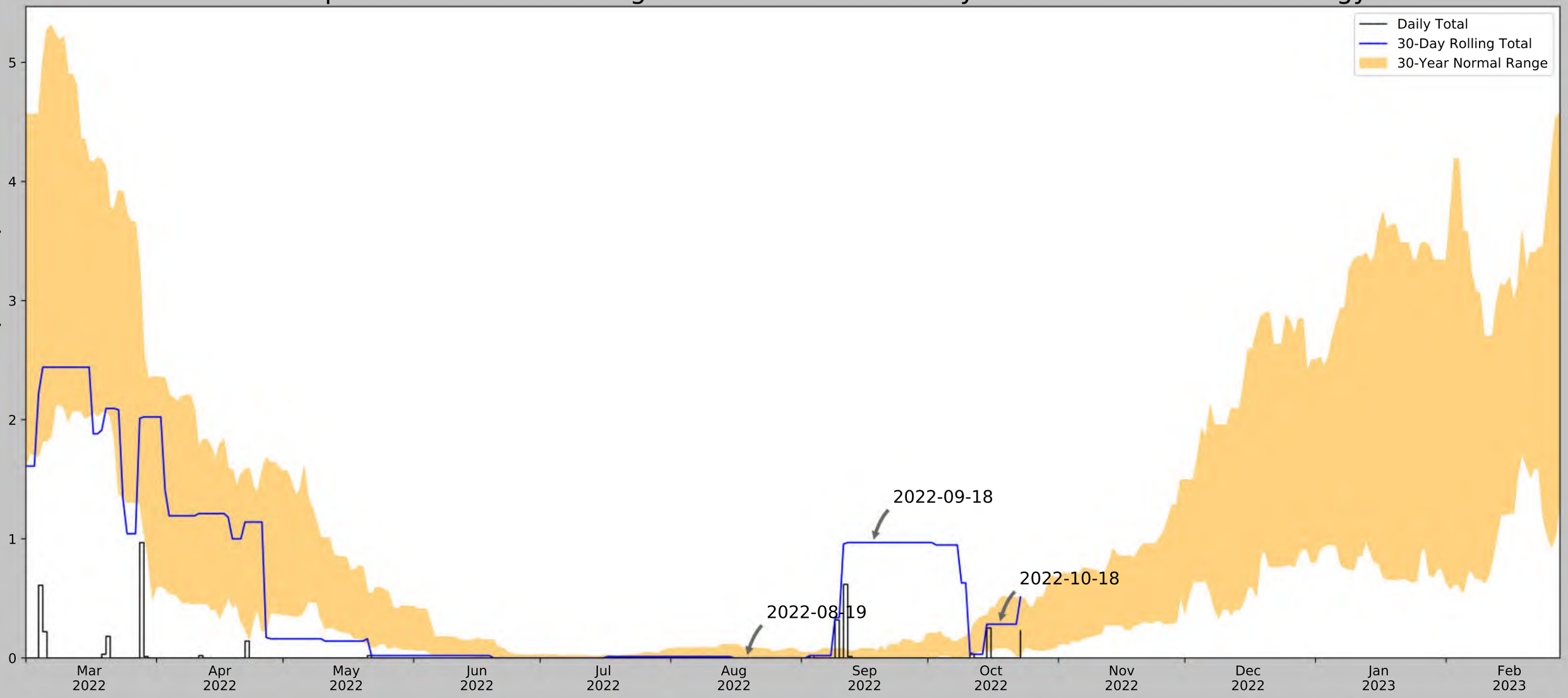
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation	Weighted	Days Normal	Days Antecedent
RAMONA AP	33.0375, -116.9158	1393.045	14.203	477.215	13.169	8877	90
RAMONA FIRE DEPT	33.0114, -116.9081	1470.144	1.858	77.099	0.979	2207	0
ESCONDIDO 7.2 SE	33.0563, -116.9925	1584.974	4.628	191.929	2.971	1	0
SAN DIEGO COUNTRY ESTATES 1.5	33.0158, -116.8068	1474.081	6.49	81.036	3.446	9	0
POWAY 3.2NE	32.9956, -117.0044	1206.037	5.893	187.008	3.754	3	0
POWAY VALLEY	33.0194, -117.0308	647.966	6.778	745.079	8.1	225	0
SAN PASQUAL ANIMAL PK	33.0956, -116.9975	419.948	6.204	973.097	8.829	31	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.899718, -116.964857
Observation Date	2022-10-18
Elevation (ft)	1075.35
Drought Index (PDSI)	Extreme drought (2022-09)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-18	0.087008	0.49252	0.283465	Normal	2	3	6
2022-09-18	0.011811	0.079134	0.968504	Wet	3	2	6
2022-08-19	0.0	0.084646	0.0	Normal	2	1	2
Result							Normal Conditions - 14

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation	Weighted	Days Normal	Days Antecedent
RAMONA AP	33.0375, -116.9158	1393.045	9.935	317.695	7.627	8877	90
RAMONA FIRE DEPT	33.0114, -116.9081	1470.144	1.858	77.099	0.979	2207	0
ESCONDIDO 7.2 SE	33.0563, -116.9925	1584.974	4.628	191.929	2.971	1	0
SAN DIEGO COUNTRY ESTATES 1.5	33.0158, -116.8068	1474.081	6.49	81.036	3.446	9	0
POWAY 3.2NE	32.9956, -117.0044	1206.037	5.893	187.008	3.754	3	0
POWAY VALLEY	33.0194, -117.0308	647.966	6.778	745.079	8.1	225	0
SAN PASQUAL ANIMAL PK	33.0956, -116.9975	419.948	6.204	973.097	8.829	31	0

WETS Table

WETS Station: LAKESIDE 2 E, CA

Requested years: 2002 - 2022

Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	-	-	-	2.13	0.63	2.52	3	-
Feb	-	-	-	2.95	1.29	3.59	-	-
Mar	-	-	-	1.55	0.70	1.89	-	-
Apr	-	-	-	1.02	0.28	1.13	-	-
May	-	-	-	0.46	0.11	0.40	1	-
Jun	-	-	-	0.03	0.00	0.04	0	-
Jul	-	-	-	0.08	0.00	0.05	0	-
Aug	-	-	-	0.03	0.00	0.02	0	-
Sep	-	-	-	0.16	0.00	0.18	0	-
Oct	-	-	-	0.88	0.14	0.71	2	-
Nov	-	-	-	-	-	-	-	-
Dec	-	-	-	2.74	1.11	3.33	4	-
Annual:					-	-		
Average	-	-	-	-	-	-	-	-
Total	-	-	-	-			-	-

GROWING SEASON DATES

Years with missing data:	24 deg = 21	28 deg = 21	32 deg = 21
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0
Data years used:	24 deg = 0	28 deg = 0	32 deg = 0
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	Insufficient data	Insufficient data	Insufficient data
70 percent *	Insufficient data	Insufficient data	Insufficient data

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1899	3.29	0.73	1.44	0.07	0.15	0.66	0.00	0.00	0.00	0.57	1.65		8.56
1900	M2.00	0.15	0.67	1.37	1.37					0.25	3.60		9.41
1901	1.94	6.27											8.21
1902													
1903													
1904													
1905													
1906													
1907													
1908											M0.58		0.58
1909					0.20			MT			3.18	5.47	8.85
1910	2.05	0.37	2.34		0.00	0.00	T	0.00	0.00	0.80	1.13	0.50	7.19
1911	2.85			0.70	0.00	0.00		0.00	0.51	0.00	0.00	1.15	5.21

1912	0.35	0.00	7.85										8.20
1913	0.93	3.51	M0.99	0.43									5.86
1914													
1915													
1916													
1917													
1918													
1919													
1920													
1921													
1922													
1923													
1924													
1925													
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1941													
1942													
1943													
1944													
1945													
1946													
1947													
1948													
1949													
1950													
1951													
1952												3.05	3.05
1953	0.89	1.16	1.72	M0.31	M0.49	0.02	T	0.00	0.00	0.01	1.04	0.19	5.83
1954	4.61	1.87	7.23	0.20	0.12	0.00	0.11	0.00	0.04	0.00	0.67	0.89	15.74
1955	4.75	1.50	0.79	0.44	1.75	0.00	0.06	0.00	0.00	0.00	1.10	0.98	11.37
1956	2.66	0.82	0.00	2.34	0.28	0.00	0.00	0.00	0.00	0.27	0.00	M0.35	6.72
1957	7.42	0.75	1.16	1.28	1.13	0.40	0.00	T	0.00	3.46		1.37	16.97
1958	1.18	4.34	8.01	3.91	0.27	0.00	0.00	T	0.68	0.18	0.53	0.05	19.15
1959	0.03	6.87	0.03	0.39	0.01	T	0.01	0.02	0.04	0.35	0.09	2.24	10.08
1960	3.03	2.21	0.86	0.75	0.67	0.00	0.00	0.00	0.00	0.00	2.18	0.08	9.78
1961	1.05	0.24	2.12	0.00	0.00	0.00	0.00	2.20	0.00	0.56	0.98	2.04	9.19

1962	3.74	5.07	1.69	0.00	0.87	0.07	0.00	0.00	0.00	0.01	0.00	0.69	12.14
1963	0.88	2.93	2.02	1.45	T	0.06	0.00	0.08	2.81	0.68	2.35	0.15	13.41
1964	1.83	0.66	2.80	0.92	0.73	0.02	0.00	0.00	T	0.18	2.26	1.41	10.81
1965	0.78	1.34	0.63	5.57	0.00	0.05	0.10	0.00	0.67	0.00	7.21	4.66	21.01
1966	1.98	1.96	0.64	0.00	0.00	0.00	0.00	0.00	0.12	0.77	2.05	6.26	13.78
1967					0.14	0.16	0.06	0.17	0.12	0.00	2.81	2.91	6.37
1968	0.73	0.47	1.39	0.94	0.36	0.04	0.21	0.00	0.00	0.02	0.72	1.32	6.20
1969	8.03	6.28	2.42	0.23	0.16	0.22	T	0.13	0.00	0.03	1.40	0.40	19.30
1970	0.73	0.78	4.60	0.29	0.00	0.08	0.00	0.04	0.00	0.14	3.02	3.07	12.75
1971	0.79	1.82	0.32	1.29	2.23	T	0.00	0.00	0.17	1.83	0.32	4.30	13.07
1972	0.05	0.21	0.00	0.27	0.45	1.63	0.00	0.09	0.87	1.08	2.71	2.23	9.59
1973	2.02	3.71	4.84	0.18	0.12	0.10	0.00	0.12	0.00	T	2.46	0.16	13.71
1974	5.04	0.08	1.78	0.58	0.03	0.00	0.00	0.00	0.00	3.15	0.64	2.52	13.82
1975	0.33	1.56	4.68	3.36	0.11	0.15	T	0.00	0.11	0.19	1.20	0.37	12.06
1976	0.00	6.23	2.44	2.11	0.01	0.00	0.06	0.00	2.94	0.32	0.42	1.68	16.21
1977	2.73	0.37	1.26	0.16	2.75	0.10	0.00	1.68	0.00	1.00	0.06	3.36	13.47
1978	7.58	6.49	8.68	1.52	0.24	0.00	0.00	0.00	0.60	0.10	3.31	2.78	31.30
1979	6.22	5.38	5.84	0.10	0.35	0.07	0.00	0.04	0.00	1.42	0.47	0.38	20.27
1980	7.93	9.08	4.26	2.16	0.56	0.00	0.00	0.00	0.00	0.21	0.00	0.64	24.84
1981	1.98	2.31	5.03	0.93	0.30	0.00	0.00	0.00	0.00	0.34	1.33	0.80	13.02
1982	3.50	2.16	6.64	1.13	0.83	0.27	0.00	0.03	0.81	0.14	3.48	3.55	22.54
1983	2.55	4.77	10.42	2.48	0.27	0.03	0.00	0.31	0.40	0.41	2.69	2.75	27.08
1984	0.37	0.05	0.05	0.50	0.00	0.16	0.62	0.13	0.05	0.29	2.02	6.61	10.85
1985	0.79	1.26	1.18	0.38	0.00	0.00	0.00	0.00	0.55	0.56	7.11	1.33	13.16
1986	0.64	4.26	4.34	0.63	0.00	0.00	0.00	0.16	1.02	1.49	0.90	1.65	15.09
1987	2.50	2.56	1.96	0.41	0.03	0.00	0.00	0.21	0.51	2.57	2.96	3.49	17.20
1988	2.58	0.99	0.71	3.26	0.00	0.00	0.00	0.00	0.03	0.00	0.93	2.19	10.69
1989	0.49	1.06	1.06	0.10	0.22	0.00	0.00	0.00	0.28	0.55	0.12	0.06	3.94
1990	3.36	1.54	1.18	0.74	0.35	0.81	0.00	0.00	0.00	0.05	0.86	1.00	9.89
1991	1.01	1.86	11.86	0.30	0.00	0.00	0.87	0.08	0.17	1.26	0.29	2.41	20.11
1992	2.75	4.31	5.08	0.57	0.27	0.00	0.03	0.22	0.00	0.96	0.02	4.04	18.25
1993	14.16	5.47	1.36	0.00	0.09	0.63	0.00	0.00	0.14	0.29	1.55	1.03	24.72
1994	1.26	4.02	4.71	1.98	0.22	0.00		0.00	0.00	0.14	1.02	1.29	14.64
1995	8.24	3.66	7.62	2.05	0.92	0.52	0.00	0.00	0.00	0.00	0.31	0.63	23.95

1996	1.49	4.26	3.88	0.60	0.00	0.00	0.05	0.00	0.03	1.40	1.79	1.84	15.34
1997	4.88	1.58	0.09	0.15	0.00	0.05	0.00	0.00	1.01	0.08			7.84
1998	3.03	12.51	4.60	2.05	1.30	0.30	0.00	0.10	0.05	0.11	1.63		25.68
1999	2.81	1.08	1.28	2.62	0.00	0.10	0.03	0.00	0.41	0.00	0.00	0.52	8.85
2000	0.56	4.58	1.24	0.84	0.22	0.00	0.00	0.11	0.19	1.02	0.29	T	9.05
2001	3.58	3.96	1.84	1.33	0.26	0.00	0.41	0.00	0.00	0.00	1.11	1.36	13.85
2002	0.15	0.13	0.92	0.45	0.00	0.00	0.00	0.01	0.45	0.05	2.89	2.33	7.38
2003	0.09	5.12	2.36	1.93	0.60		0.02	0.00	0.05	0.00	1.35	1.46	12.98
2004	0.51	4.96	0.53	0.85	0.02	0.00	0.00	0.00	0.00	7.55	0.74	3.17	18.33
2005	5.26	6.29	2.12	3.22	0.50	0.02	0.40	0.00	0.00	0.92	0.02	0.03	18.78
2006	1.01	1.71		2.37	0.54	0.00	0.11	0.05	0.00	0.16	0.45	0.96	7.36
2007	0.86	3.28	0.27	0.88	0.01	0.00	0.00	0.07	0.55	0.17	1.89	3.18	11.16
2008	5.46	3.14	0.09	0.01	0.52	0.00	0.00	0.00	0.00	0.03	3.24	4.66	17.15
2009	0.13	4.71	0.10	0.37	0.07	0.00	0.00	0.01	0.00	0.10	1.48	3.93	10.90
2010	5.82	4.17	0.92	2.52	0.00	0.00	0.00	0.00	0.00	3.51	1.61	8.48	27.03
2011	0.74	4.46	2.20	0.55	0.43	0.11	0.00	0.00	0.15	0.49	M3.68	0.97	13.78
2012	0.85	M2.02	2.30	M2.07	0.00	0.00		0.01	0.00	0.33	0.31	3.61	11.50
2013	1.90	1.32	1.38	0.04	0.64	0.00	0.06	0.00	0.00	1.45	0.39	0.62	7.80
2014	0.19	1.73	1.05	0.64	0.00	0.00	0.06	0.30	0.00	0.00	0.29	3.33	7.59
2015	1.15	0.90	1.27	0.27	1.73	0.17	0.83	0.00	0.72	0.56	1.32	2.11	11.03
2016	4.86	0.61	1.45	1.02	0.85	0.00	0.00	0.00	0.72	0.17	1.77	4.15	15.60
2017	5.43	5.69	0.29	0.00	1.47	0.03	0.00	0.00	0.14	0.06	0.00	0.08	13.19
2018	3.71	1.32	1.91	0.06	0.22	0.00	0.00	0.00	0.00	0.82	1.62	2.82	12.48
2019	3.36	7.22	1.60	0.37	2.06	0.10	0.00	0.00	0.34	0.00	4.37	4.13	23.55
2020	0.42	0.67	5.46	4.19	0.00	0.18	0.00	0.00	0.00	0.00	1.33	1.15	13.40
2021	2.60	0.26	2.26	0.32	0.04	0.00	0.05	0.00	0.06	1.21	0.00	3.68	10.48
2022	0.19	1.22	2.55	0.39	0.00	0.04	0.00	0.09	0.17	M0.00			4.65

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2022-10-25

WETS Table

WETS Station: EL CAJON, CA								
Requested years: 2002 - 2022								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	70.9	42.6	56.8	1.76	0.42	1.91	3	-
Feb	70.5	43.8	57.2	2.08	0.91	2.45	4	-
Mar	72.6	47.9	60.2	1.29	0.61	1.58	3	-
Apr	75.2	51.2	63.2	0.74	0.24	0.81	2	-
May	76.4	55.9	66.2	0.35	0.11	0.33	1	-
Jun	81.6	59.9	70.7	0.03	0.00	0.00	0	-
Jul	87.3	64.0	75.7	0.17	0.00	0.00	0	-
Aug	89.1	65.3	77.2	0.02	0.00	0.00	0	-
Sep	88.3	62.9	75.6	0.12	0.00	0.12	0	-
Oct	81.8	56.1	68.9	-	-	-	-	-
Nov	76.5	48.0	62.2	1.16	0.61	1.35	2	-
Dec	69.2	42.7	55.9	2.53	1.11	3.08	5	-
Annual:					-	-		
Average	78.3	53.3	65.8	-	-	-	-	-
Total	-	-	-	-			-	-

GROWING SEASON DATES			
Years with missing data:	24 deg = 7	28 deg = 7	32 deg = 8
Years with no occurrence:	24 deg = 14	28 deg = 14	32 deg = 6
Data years used:	24 deg = 14	28 deg = 14	32 deg = 13
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	Insufficient data	Insufficient data	Insufficient data
70 percent *	Insufficient data	Insufficient data	Insufficient data
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1979											0.30	0.08	0.38
1980	8.39	7.36	4.01	1.03	0.46	T	0.00	0.00	0.00	0.47	0.00	0.43	22.15
1981	3.27	M1.69	M3.34	0.62	0.15		T	0.00	0.00	0.38	1.57	0.71	11.73
1982	3.31	1.68	6.15	0.89	M0.15	0.00	0.00	0.00	0.60	0.15	5.43		18.36
1983	2.28	M4.67	9.66	1.72	0.13	0.00	0.00	0.09	0.19	M0.18	2.39	1.84	23.15
1984	0.24	0.14	0.00	0.62	0.00	0.00	0.00	T	0.00	0.00	M0.99	5.32	7.31
1985	0.91	0.81	0.38	0.22	M0.10	T	0.00	0.00	0.21	0.11	7.21	1.74	11.69
1986	0.70		3.03	1.06	0.00	0.00	T	0.13	0.86	1.92	1.21	2.39	11.30
1987	1.77	2.04	1.37	0.63	0.06	0.00	T	0.00	0.68	1.60		M2.00	10.15
1988	2.12	1.77	0.14	2.42	T	0.00	0.00	0.00	0.00	0.00	0.46	1.29	8.20

1989	0.13	0.00	0.41	0.00	0.06	0.00	0.00	0.00	0.20	0.41	0.12	0.18	1.51
1990	2.38	1.06	0.56	0.58	0.36	0.91	M0.03	T	0.00	0.21	0.67	0.86	7.62
1991	0.73	1.68	8.53	0.21	0.00	T	0.68	0.01		0.84	0.18	1.94	14.80
1992	1.47	3.81	3.68		0.01		0.07	0.10	0.00		0.00	1.89	11.03
1993	11.43	4.11	M1.69	0.00	0.00	0.58	0.00	0.00	T	0.24	1.72	0.63	20.40
1994	0.98	3.22		0.86	0.02		0.06	0.02		0.08	0.68	0.37	6.29
1995	7.35	2.79	7.46	1.41	0.64	0.18	0.02	0.00	0.00	T	0.19	0.76	20.80
1996		3.21	2.37	0.50	0.02	0.00	0.05	0.00	0.00	M0.90	1.86	1.37	10.28
1997	3.47	0.55	0.00	0.33	T	0.00	0.02	0.00		0.03	1.65		6.05
1998	2.54	10.35	3.63		1.21	0.13					0.82		18.68
1999	1.85	0.62	M0.64	1.27	0.00	0.11	0.00	0.03	0.02	0.00	0.00	0.20	4.74
2000	0.00	M3.65	T	0.00	0.02	0.00	0.00	T	0.00	1.28	0.00	0.01	4.96
2001	4.03	3.47	1.13	1.33	0.00	0.00	0.38	0.00	0.00	0.00	0.50	M0.32	11.16
2002	0.40	T	0.31	0.52	0.00	0.00	0.00	0.00	M0.74	T	2.84	M2.28	7.09
2003	0.00	2.04	M0.36	1.37	0.16	0.07	0.78	0.01	0.00	0.00	2.04	0.59	7.42
2004	0.01	3.47	0.34	M0.12	0.00	0.00	0.00	0.00	0.00	5.22	0.40	3.28	12.84
2005	4.11	M4.10	2.10	M0.79	0.06	0.00	0.28	M0.00	MT	M1.36	M0.15	0.35	13.30
2006	0.62	M1.80	M2.68	1.90	0.72	0.00	1.90	0.10	0.00	M0.01	0.00	M0.95	10.68
2007	0.88	2.14	0.12	0.50	M0.00	0.00	M0.00	M0.35	MT	MT	0.80	1.91	6.70
2008	4.41	M2.20	M0.25	0.00	M0.41	0.00	0.00	0.00	0.00	0.00	2.00	5.38	14.65
2009	0.02	3.54	0.24	0.10	0.00	0.12	0.00	0.00	0.00	0.01	0.70	3.01	7.74
2010	4.59	M1.87	0.90	M1.04	0.10	0.00	0.00	0.00	0.28	2.54	1.27	7.85	20.44
2011	0.74	3.80	2.07	M0.49	0.43	0.05	0.00	0.00	0.10	0.44	M3.36	0.98	12.46
2012	0.58	1.56	2.14	1.54	0.08	0.00	0.00	0.01	0.00	0.43	0.42	2.61	9.37
2013	1.69	1.10	1.35	0.07	0.68	0.00	0.00	0.00	0.00	0.77	0.51	0.66	6.83
2014	0.14	1.07	0.79	0.60	0.00	0.00	0.00	0.29	0.00	0.01	0.50	2.84	6.24
2015	0.62	0.42	1.05	0.15	1.13	0.20	0.57	0.01	0.42	0.75	0.98	1.45	7.75
2016	4.81	0.12	0.96	0.69	0.67	0.00	0.00	0.00	0.49	0.15	1.03	3.76	12.68
2017	4.80	4.60	0.16	0.00	1.37	0.00	0.00	0.00	0.03	0.00	0.00	0.05	11.01
2018	2.22	0.79	1.31	0.08	0.30	0.00	0.00	0.00	0.00	0.54	1.16	3.20	9.60
2019	3.23	7.00	1.06	0.13	1.07	0.00	0.00	0.00	0.06	0.00	3.94	4.30	20.79
2020	0.40	0.62	3.61	4.30	0.03	0.25	0.00	0.00	0.00	0.00	1.07	0.89	11.17
2021	2.61	0.17	2.16	0.22	0.04	0.00	0.12	0.00	0.13	1.16	0.00	4.24	10.85
2022	0.17	1.03	2.11	0.25	0.00	0.00	0.00	0.02	0.11	M0.20			3.89

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.
Data missing for all days in a month or year is blank.
Creation date: 2022-10-25

Appendix C. Cultural Resources Inventory and Historical Property Evaluation Report

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September 15, 2022

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BV internal Project # 410303.110

Subject: **Cultural Technical Analysis for the** Chet Harritt Pump Station, Lake Jennings Aeration System, and Clearwell Tank Effluent Flowmeter Project in Lakeside, CA

Black & Veatch archaeologists have completed a cultural resources technical analysis for the Helix Water District's Chet Harritt Pump Station, Lake Jennings Aeration System, and Clearwell Tank Effluent Flowmeter Project (Project) in Lakeside, California. The current technical analysis included a review of historical aerial photographs and topographic maps, a records search, a Sacred Land File (SLF) search, and a review of recent virtual walkdown imagery of the Project area captured using virtual 360 technology. A Mitigated Negative Declaration (MND) previously prepared for improvements at the water treatment plant was conducted in 1997 and included a cultural resources examination of large portions of the current proposed Project area with negative results (Carrico 1997; Mooney & Associates 1997). More recently, a 2021 cultural resources technical analysis was conducted for a sewer line replacement project that also included a cultural resources examination of major portions of the current proposed Project area with negative results (Wilson 2021). Due to the negative results of both the 1997 and 2021 surveys, in addition to the current cultural resources analysis, which suggests that all current proposed Project activities will take place in previously disturbed ground, Black & Veatch archaeologists conclude that no significant impacts to cultural resources are anticipated.

While the presence of archaeological or Tribal cultural resources is unlikely to be identified during construction of the proposed Project, mitigation recommendations have been included at the conclusion of this report. Implementation of these recommendations will serve to mitigate any potential unanticipated cultural resources related impacts caused as a result of implementation of the proposed Project.

Project Purpose

Helix Water District (District) plans to participate in and receive product water from the East County Advanced Water Purification Program (ECAWP). ECAWP will create a new, local, sustainable, and drought-proof drinking water supply using state-of-the-art technology to purify locally sourced recycled water. To prepare for and accommodate this program, Helix Water District proposes to replace and enhance existing equipment near lake Jennings in San Diego County (Attachment 1 *County Map*). Equipment to be replaced or enhanced includes the following:

- Replacement of the Chet Harritt Pump Station, including the installation of a 3 Ft. wide conduit duct bank, approximately 800 Ft. in length from the proposed pump station to the Clearwell Tank.
- Installation of an aeration system within Lake Jennings, including approximately 950 Ft. of new aeration piping from the pump station to Lake Jennings.
- Installation of an effluent flowmeter adjacent to the existing Clearwell Tank.

- Improvements to the existing dam Seepage and Sump system.

All replacement and enhancement activities are expected to take place within previously disturbed ground.

Natural Setting

The Project is situated along the side of a small valley within the foothills of San Diego County, approximately 1-mile south of the San Diego River Valley. Elevations within the Project area range from approximately 500 Ft. to 700 Ft. above mean sea level (AMSL) (Attachment 2 *Topographic Map*). Based on recent photographic imagery, the area within the immediate project vicinity appears to be highly disturbed with non-native plants, grasses, and weeds present within large portions of the project area (Attachment 3 *Aerial Image*). Geologically, the majority of the Project area is underlain by Metasedimentary rocks from the Cretaceous Periods. These are comprised of sandstone, siltstones, shale, schist, quartzite, metabasalt, metatuff-breccia with geniss as well as similar materials (Tan 2002).

Cultural Background

Paleoindian Period

The earliest well documented prehistoric time period in southern California is identified as the Paleoindian period, which is locally referred to as the San Dieguito tradition. The Paleoindian period is thought to have occurred between 9,000 years ago and 8,000 years ago in this region (Piniolo 2016). These highly mobile hunter gatherers appear to have focused mainly on large mammal resources and likely followed game from one location to the next while covering vast distances.

Early Archaic Period

The Early Archaic period is differentiated from the Paleoindian period based on a shift to a more generalized economy and an increased focus on the use of grinding and seed processing related tools. Sites from this period generally range from 8,000 and 1,500 Before Present (B.P.). The increased use of groundstone tools and atlatl dart points during this period suggests a wider range of adaptation to a more diversified set of plant and animal resources. Heavy use of marine invertebrates in coastal areas are characteristic of this period (Wilson 2021).

Late Archaic Period

Around 2,000 B.P., Yuman-speaking people from the eastern Colorado River region began migrating into southern California, representing what is called the Late Prehistoric Period. The Late Prehistoric Period in San Diego County is recognized archaeologically by smaller projectile points, the introduction of ceramics, and an emphasis on inland plant food collection and processing. (True 1966). Semi-sedentary villages were also established during this time particularly along major water ways and mountain regions, which were seasonally explored for plant and animal resources. This period is known archaeologically in southern San Diego County as the Cuyamaca Complex (True 1970). The Kumeyaay (formerly referred to as Diegueño) who inhabited the southern region of San Diego County are the direct descendants of the early Yuman hunter-gatherers. Kumeyaay territory encompassed a large and diverse environment which included marine, foothill, mountain, and desert resource zones (True 1970).

Spanish

While Spanish explorers are known to have visited the San Diego area prior to the 1700's, the historic period is generally understood to begin in 1769 with the founding of the Royal Presidio of San Diego by the Spanish (Weber 1992). The Mission system established by the Spanish during this period used Native Americans to build a footing for greater European settlement. The Mission system also introduced horses, cattle, and agricultural goods, as well as new construction methods and new architectural styles. The Spanish Period is understood to have extended from 1769 to 1821 when California came under Mexican rule.

Mexican

The Mexican Period began in 1821 when Mexico gained control over California and the period ended in 1848 when Mexico ceded California to the United States after the Mexican American War (1846-1848). During Mexican control, Spanish laws and institutions were retained, the Mission system was secularized, and large tracts of land were granted to individuals and families. The Rancho system was also established during this time and cattle ranching dominated other agricultural activities. The Pueblo of San Diego was established during this period and Native American influence and control declined significantly.

American

Shortly after the Mexican American War and the establishment of American control over the region (1848-present), gold was discovered in California. The large influx of American and European settlers that followed quickly drowned out much of the Spanish and Mexican cultural influences in the region. Ultimately, few Mexican ranchos remained intact because of land claim disputes and the homestead system increased American settlement beyond the coastal plain.

Methods

Black & Veatch archaeologists submitted a data request to the South Coastal Information Center (SCIC) and conducted a cultural resources records search of the Project area and a quarter-mile radius on August 5th, 2022. The Native American Heritage Commission (NAHC) was contacted in early April 2022 for a Sacred Land File (SLF) search and the results were received on April 25th, 2022. Results of the SLF search were positive and Native American tribal outreach was conducted. Finally, a review of all available historic topographic maps and aerial images was conducted for the Project and surrounding area, and a review of recent virtual walkdown imagery of the Project area using virtual 360 technology was completed. The results of that review indicate that all portions of the project alignment appear to be heavily disturbed as a result of past construction activities associated with the water treatment plant, the Chet Harritt Pump Station, the development of Lake Jennings Park Road, and the construction of Lake Jennings Dam.

Research Results

Documents received from the record search indicate that four cultural resources sites have been previously identified within a quarter-mile radius surrounding the Project area. Two of these sites CA-SDI-19644 (P-37-030954) and CA-SDI-19752 (P-37-031176) are scatters of marine shell with no associated artifacts. Both are recorded approximately 0.20 miles northwest of the Project area. Of the two remaining cultural resource sites identified in the record search, one CA-SDI-19645 (P-37-030955) is listed as an historic concrete foundation with container glass fragment. The site is located approximately 0.24 miles south of the Project area. The resource form indicates that investigators interpreted the site as a possible animal shelter dating to the mid 1960's. The last cultural resources site identified in the records search is the Chet Harritt Dam (P-37-38826). Built between 1960 and 1962, the earthen-rock fill dam was constructed to supply drinking water to the surrounding communities. Information listed on the resource form indicates that the dam is one of dozens of dams constructed within San Diego County during the mid-twentieth century and it is not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR) (Table 1). While a small section of 1-to-3-inch diameter piping is proposed to be installed within the northern drainage swale of the dam during construction activities for the proposed Project, the piping will be undetectable once construction is complete as it will be buried beneath the drainage swale and not visible. As a result, no significant impacts to the Chet Harritt Dam are anticipated as a result of the Project.

Table 1
PREVIOUSLY RECORDED RESOURCES WITHIN A QUARTER MILE OF THE PROJECT AREA

Resources Number (P-37-#)	Resources Number (CA-SDI-#)	Age and Site Type	Description	Recorder, Date
30954	19644	Prehistoric Site	Marine shell scatter with no associated artifacts.	Dorrler and Hubbs, 2009

31176	19752	Prehistoric Site	Marine shell scatter with no associated artifacts.	Blotner, 2010
30955	19645	Historic Structure 1960's	Poured concrete foundation, glass container fragments, possible animal barn	Piniolo, 2016
38826	Not Listed	Historic Structure 1960's	Chet Harritt Dam Structure	McCausland, 2019

A review of historic aerial photographs and topographic maps did not reveal any additional historical resources that have the potential to impact the proposed Project alignment. (NETR Online 2022; USGS Historical Topographic Map Explorer Online 2022). The Project alignment is situated within the R.M. Levy Water Treatment Plant site and the Chet Harritt Dam, which have been heavily disturbed from the construction of the dam, plant, and associated facilities - beginning with original construction of the dam and plant in the 1960s, along with several modifications and improvements to the plant facilities over the last 50 plus years. No elements of the water treatment plant appear to be eligible for listing on the NRHP or the CRHR.

As noted above, two previous cultural resources surveys have been conducted for major portions of the current proposed project alignment. The first was an MND conducted for the R.M. Levy Water Treatment Plant Expansion Project in 1997. Results of that survey were negative for the presence of cultural resources (Carrico 1997). That survey encompassed approximately 600 Ft. of the currently proposed 800 Ft. pipeline from the Clearwell Tank to the Pump Station, as well as all of the land involved with the current proposed improvements to the installation of an effluent flow meter adjacent to the Clearwell Tank and much of the land involved with the proposed improvements to the seepage and sump system. The second and more recent cultural resources survey conducted within the current Project alignment was for an 835 Ft. long sewer pipeline replacement Project (Wilson 2021). That survey examined approximately 775 Ft. of the currently proposed 800 ft. pipeline from the Clearwater Tank to the Pump Station, as well as approximately 1/3rd of the yard surrounding the Chet Harritt Pump Station and all of the land involved with the current proposed improvements for the installation of an effluent flow meter adjacent to the Clearwell Tank.

Areas of the current proposed Project not covered by either of these two former surveys are limited (and previously disturbed); however, they include the eastern portion of the Pump Station yard and approximately 900 Ft. of 1-to-3-inch aeration pipeline that exits the pump station yard and travels up an extremely steep embankment to Lake Jennings Road. Once across the road, the aeration pipeline travels up the northern drainage swale of the Chet Harritt Dam, crossing Bass Drive before entering Lake Jennings. A review of recent virtual walkdown imagery of the project area shows not only all of the proposed aeration pipeline alignment as being previously disturbed but all other portions of the proposed project as being heavily disturbed as well. While some introduced plants, grasses, and weeds are present in some areas, natural vegetation was only observed in the general vicinity and consisted mostly of coastal sage scrub plants, including sagebrush, various sages, and chamise. Visibility along the Project alignment ranged from 80 to 100 percent.

Information from the SLF search request was received from the NAHC on April 25th, 2022 and indicated positive results for the Project area. The NAHC provided a list of thirteen tribal organizations that should be contacted and stated that the Barona Group of the Capitan Grande (Barona) and the Viejas Band of Kumeyaay Indians (Viejas) in particular should be contacted from the list and that the Kumeyaay Cultural Repatriation Committee (KCRC) not on the list should also be

contacted for more information. Letters to all tribal organizations were sent via certified mail in early May 2022 with follow-up email correspondence shortly thereafter. On May 11th, 2022, the Viejas responded via email indicating that they reviewed the proposed Project and determined that the Project site has cultural significance or ties to the Viejas. They requested that a Kumeyaay Cultural Monitor be on site for ground disturbing activities to inform them of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. On May 20th, 2022, Ms. Ashley Longrie of the United States Environmental Protection Agency (USEPA) called the KCRC to request an appropriate email address to send project information too. Ms. Longrie spoke with Mr. Clint Linton of the KCRC who requested additional information on the Project during that phone call. Later that same day Ms. Longrie emailed a portion of the requested Project information to Mr. Linton and indicated that she would send the remaining information once it became available. On June14th, 2022 Ms. Longie send a follow up email to Mr. Linton with the remaining information he had previously requested for the Project. Following the June 14th, 2022, email, no further inquiries and or comments have been received from Mr. Linton or any other representatives of the KCRC.

Mitigation Recommendations

Based on negative results from two previous cultural resources surveys completed in 1997 and 2021 (Carrico 1997; Mooney & Associates 1997; Wilson 2021), as well as a review of the current conditions of the Project alignment, no significant impacts to cultural resources are expected to result from implementation of the current proposed Project. With that said, the possibility of an inadvertent discovery of cultural material cannot be completely ruled out. As a result, the following mitigation measures are recommended to reduce any potential impacts to cultural resources:

> **MR-1 (Archaeological Resources).** In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 Ft. of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find. Construction activities may continue in other areas but should be redirected a safe distance from the find. If the new discovery is evaluated and found to be significant under CEQA and avoidance is not feasible, additional work such as data recovery may be warranted. In such an event, a data recovery plan should be developed by the qualified archaeologist in consultation with the lead agency and Native American representatives, if applicable. Ground disturbing work can continue in the area of the find only after impacts to the resources have been mitigated and with lead agency approval.
>
> **MR-2 (Human or Potentially human remains).** In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify the person or persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site and make recommendations for the treatment and disposition, in consultation with the property owner, of the human remains.

Additionally, while the Project alignment appears to have been heavily disturbed from past construction related activities and no archaeological or Tribal cultural resources have been identified during either previous surveys or the current review, results from the SLF search conducted by the NAHC were positive for the area reviewed around the Project. Furthermore, the Viejas Band of Kumeyaay Indians have indicated that the Project area has cultural significance to their Tribal organization. Therefore, the potential for construction to impact previously unknown Tribal cultural resources cannot be completely ruled out. As a result, the following mitigation measure should be implemented to reduce any potential impacts to Tribal cultural resources resulting from implementation of the Project:

MR-3 (Tribal Cultural Resource Monitoring). Both a qualified Project Archaeologist and a Native American monitor are to be onsite during earth disturbing activities for the proposed Project. The frequency and location of monitoring of soils will be determined by the Project Archaeologist in consultation with the Native American monitor. Both the Project Archaeologist and Native American monitor will evaluate fill soils to ensure that they are negative for cultural resources. If tribal cultural resources are identified, both the Project Archaeologist and Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. The Project Archaeologist in consultation with the Native American monitor shall determine the significance of discovered resources. Work may resume in the area of discovery only after significance has been evaluated and an appropriate course of action has been determined by both the Project Archaeologist and the Native American Monitor. Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program. If cultural resources are determined to be significant, a research design and data recovery program shall be prepared by the Project Archaeologist in consultation with the Native American monitor. The program shall include reasonable efforts to preserve (avoid) unique cultural resources of associated with sacred sites to the extent practical. Upon completion of construction grading activities, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy. The report shall include evidence that all prehistoric materials have been curated at a state approved curation facility or Tribal curation facility that meets federal standards per 36 CFR Part 79, or alternatively have been repatriated to a culturally affiliated tribe.

While it is unlikely that archaeological or Tribal cultural resources will be identified during construction of the proposed Project the above-listed mitigation recommendations will minimize any cultural resources related impacts that may result due to implementation of the proposed Project.

If you have any further questions regarding this cultural technical analysis, please email me at robertsj@bv.com or call me at (913) 458-6306.

Jason Roberts
Staff Archaeologist
MA.

Attachments:
Attachment 1 – County Map
Attachment 2 – Topographic Map
Attachment 3 – Aerial Image

References

Carrico, Richard L.

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2021 *Cultural technical Analysis for the R.M. Levy Water Treatment Plant Sewer Pipeline Replacement Project*. On File with Helix Water District.

Attachment A – County Map

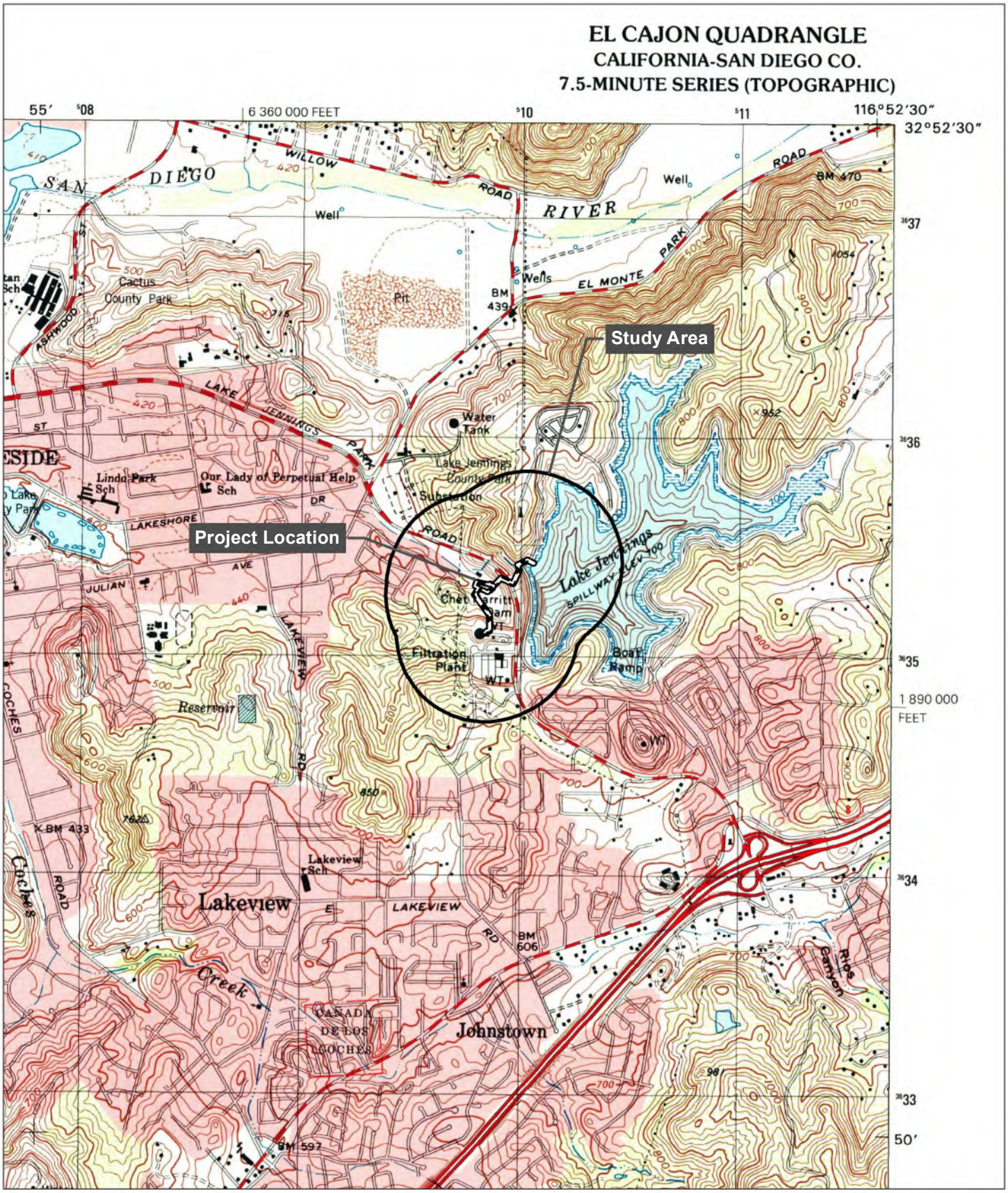
Source: Base Map Layers (SanGIS)

Regional Location

Helix Water Project, San Diego County, CA

BLACK & VEATCH

Attachment B – Topographic Map



Source: El Cajon 7.5' Quad (USGS)

Project Vicinity (USGS Topography)

Helix Water Project, San Diego County, CA

BLACK & VEATCH

Attachment C – Aerial Image

Source: Esri, 3/24/22 (basemap)

0 120 Feet

Project Vicinity (USGS Topography)

Helix Water Project, San Diego County, CA

BLACK & VEATCH

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 25, 2022

Ashley Longrie
Helix Water District/Environmental Protection Agency

Via Email to: longrie.ashley@epa.gov

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Helix Water District's Drinking Water Reliability Project, San Diego County

Dear Ms. Longrie:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the Barona Group of the Capitan Grande and the Viejas Band of Kumeyaay Indians on the attached list for more information. Please also contact the Kumeyaay Cultural Repatriation Committee via phone at (760) 803-5694 for information.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
San Diego County
4/25/2022

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road Diegueno
Lakeside, CA, 92040
Phone: (619) 443 - 6612
Fax: (619) 443-0681
cloyd@barona-nsn.gov

Campo Band of Diegueno Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 Diegueno
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Band of Kumeyaay Indians
Michael Garcia, Vice Chairperson
4054 Willows Road Diegueno
Alpine, CA, 91901
Phone: (619) 933 - 2200
Fax: (619) 445-9126
michaelg@leaningrock.net

Ewiiaapaayp Band of Kumeyaay Indians
Robert Pinto, Chairperson
4054 Willows Road Diegueno
Alpine, CA, 91901
Phone: (619) 368 - 4382
Fax: (619) 445-9126
ceo@ebki-nsn.gov

Iipay Nation of Santa Ysabel
Virgil Perez, Chairperson
P.O. Box 130 Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 765 - 0845
Fax: (760) 765-0320

Inaja-Cosmit Band of Indians
Rebecca Osuna, Chairperson
2005 S. Escondido Blvd. Diegueno
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
epinto@jiv-nsn.gov

Jamul Indian Village
Lisa Cumper, Tribal Historic Preservation Officer
P.O. Box 612 Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4855
lcumper@jiv-nsn.gov

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas,
P.O. Box 775 Diegueno
Pine Valley, CA, 91962 Kwaaymii
Phone: (619) 709 - 4207

La Posta Band of Diegueno Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

La Posta Band of Diegueno Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 Diegueno
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Helix Water District's Drinking Water Reliability Project, San Diego County.

Mesa Grande Band of Diegueno Mission Indians
Michael Linton, Chairperson
P.O Box 270 Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com

San Pasqual Band of Diegueno Mission Indians
Allen Lawson, Chairperson
P.O. Box 365 Diegueno
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
allenl@sanpasqualtribe.org

Sycuan Band of the Kumeyaay Nation
Cody Martinez, Chairperson
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov

Viejas Band of Kumeyaay Indians
John Christman, Chairperson
1 Viejas Grade Road Diegueno
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337

Helix Water Tribal Coordination Summary

	Tribe	Date Contacted		Response Received	Comments
		Letter	Follow Up		
1	**Barona Group of the Capitan Grande** 1095 Barona Road Lakeside, CA, 92040 Phone: (619) 443 - 6612 Fax: (619) 443-0681 Edwin Romero, Chairperson cloyd@barona-nsn.gov	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	SLF positive
2	**Campo Band of Diegueno Mission Indians** 36190 Church Road, Suite 1 Campo, CA, 91906 Phone: (619) 478 - 9046 Fax: (619) 478-5818 Ralph Goff, Chairperson rgoff@campo-nsn.gov info@campo-nsn.gov	Letter sent by email 5/4/2022, resent 5/5/2022	Sent by email 5/11/2022	No response as of 8/3/2022	Delivery failed to rgoff@campo-nsn.gov sent to info@campo-nsn.gov

Helix Water Tribal Coordination Summary

3	**Ewiiaapaayp Band of Kumeyaay Indians** 4054 Willows Road Alpine, CA, 91901 Fax: (619) 445-9126 Michael Garcia, Vice Chairperson Phone: (619) 933 - 2200 michaelg@leaningrock.net Robert Pinto, Chairperson Phone: (619) 368 - 4382 ceo@ebki-nsn.gov	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	N/A
4	**Iipay Nation of Santa Ysabel** P.O. Box 130 Schoolhouse Canyon Rd Santa Ysabel, CA, 92070 Phone: (760) 765 - 0845 Fax: (760) 765-0320 Virgil Perez, Chairperson	Letter sent by mail 5/4/2022 Delivered 5/6/2022		No response as of 8/3/2022	N/A
5	**Inaja-Cosmit Band of Indians** 2005 S. Escondido Blvd. Escondido, CA, 92025 Phone: (760) 737 - 7628 Fax: (760) 747-8568 Rebecca Osuna, Chairperson	Letter sent by mail 5/4/2022 Delivered 5/6/2022		No response as of 8/3/2022	N/A

Helix Water Tribal Coordination Summary

6	**Jamul Indian Village** P.O. Box 612 Jamul, CA, 91935 Erica Pinto, Chairperson Phone: (619) 669 - 4785 Fax: (619) 669-4817 epinto@jiv-nsn.gov Lisa Cumper, Tribal Historic Preservation Officer Phone: (619) 669 - 4855 lcumper@jiv-nsn.gov	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	N/A
7	**Kwaaymii Laguna Band of Mission Indians** P.O. Box 775 Pine Valley, CA, 91962 Phone: (619) 709 – 4207 Carmen Lucas	Letter sent by mail 5/4/2022 Delivered 5/6/2022		No response as of 8/3/2022	N/A
8	**La Posta Band of Diegueno Mission Indians** 8 Crestwood Road Boulevard, CA, 91905 Phone: (619) 478 - 2113 Fax: (619) 478-2125 Javaughn Miller, Tribal Administrator jmiller@LPtribe.net Gwendolyn Parada, Chairperson LP13boots@aol.com	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	Delivery failed on jmiller@LPtribe.net no other email found

Helix Water Tribal Coordination Summary

9	**Manzanita Band of Kumeyaay Nation** P.O. Box 1302 Boulevard, CA, 91905 Phone: (619) 766 - 4930 Fax: (619) 766-4957 Angela Elliott Santos, Chairperson	Letter sent by mail 5/4/2022 Delivered 5/6/2022		No response as of 8/3/2022	N/A
10	**Mesa Grande Band of Diegueno Mission Indians** P.O Box 270 Santa Ysabel, CA, 92070 Phone: (760) 782 - 3818 Fax: (760) 782-9092 Michael Linton, Chairperson mesagrandeband@msn.com chairmanlinton@mesagrandeband-nsn.gov	Letter sent by email 5/4/2022, resent 5/5/2022	Sent by email 5/11/2022	No response as of 8/3/2022	Mailbox full message received for mesagrandeband@msn.com, sent to new email chairmanlinton@mesagrandeband-nsn.gov
11	**San Pasqual Band of Diegueno Mission Indians** P.O. Box 365 Valley Center, CA, 92082 Phone: (760) 749 - 3200 Fax: (760) 749-3876 Allen Lawson, Chairperson allenl@sanpasqualtribe.org	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	N/A

Helix Water Tribal Coordination Summary

12	**Sycuan Band of the Kumeyaay Nation** 1 Kwaaypaay Court El Cajon, CA, 92019 Phone: (619) 445 - 2613 Fax: (619) 445-1927 Cody Martinez, Chairperson ssilva@sycuan-nsn.gov	Letter sent by email 5/4/2022	Sent by email 5/11/2022	No response as of 8/3/2022	N/A
13	**Viejas Band of Kumeyaay Indians** 1 Viejas Grade Road Alpine, CA, 91901 Phone: (619) 445 - 3810 Fax: (619) 445-5337 John Christman, Chairperson	Letter sent by mail 5/4/2022 Delivered 5/6/2022	6/15/2022 – follow up with Helix contact	Yes – 5/11/2022	SLF positive 5/11 – site has cultural significance to Viejas and cultural resources are within or adjacent to the APE, request Kumeyaay cultural monitor for ground disturbing activities Provided contact at Helix Water District (Jeffrey MacMaster) to further coordinate a cultural monitor.
14	**Kumeyaay Cultural Repatriation Committee** (760) 803-5694 clint@redtailenvironmental.com	5/20/2022 - Called	5/20/2022 – email with maps and additional project information sent 6/14/2022 – email with ground disturbance summary and additional information sent	Yes- 5/20/2022	SLF positive 5/20/22 Call- requested additional information about ground disturbance, archeology firm to be used, provided email address for future contact

ENCLOSURE 1

Project Description and Location Summary

SUBPROJECT NAME	LOCATION	DESCRIPTION	PROJECT MAP
Chet Harritt Pump Station Design and Construction	*32.856486, -116.895272* Located near the R.M. Levy Water Treatment Plant and Lake Jennings	Construction of an approximately 2,000 square foot new enclosed pump station building. The existing pump station will be demolished once the replacement pump station is constructed. Yard piping modifications will be needed to connect the new pump station.	Project Map 1
Effluent meter at the R.M. Levy Water Treatment Plant	**R.M. Levy Water Treatment Plant** 9550 Lake Jennings Park Rd Lakeside, CA 92040	Installation of a 54- or 60-inch flow meter at the Clearwell Tank.	Project Map 2
Aeration System at Lake Jennings	**Lake Jennings** 9535 Harritt Rd Lakeside, CA 92040	Construction of a 490-foot straight line air curtain crossing the lake bottom at 100-foot depth and a 940-foot loop air curtain following lake bottom at 50-foot depth. Construction of approximately 500 square foot enclosed air compressor building.	Project Map 3
Lake Jennings Outlet Tower	Within **Lake Jennings** 9535 Harritt Rd Lakeside, CA 92040	Inspection of the outlet tower structure, valves, mechanical equipment, and piping with rehabilitation as needed	Project Map 4
Cast-Iron Pipeline Replacement: 32,800 LF			
Pipeline CIP 20002 (5,200 LF)	Along 69th St between University Avenue and the 94 Freeway in the City of La Mesa.	Replacement of 5,200 linear feet (LF) of cast-iron pipe in eight continuous segments, ranging from 10 to 18 inches.	Project Map 5.1
Pipeline CIP 20003 (4,100 LF)	Along Madison Avenue between Terra Lane and Water Way in the City of El Cajon.	Replacement of 4,100 LF of cast-iron pipe.	Project Map 5.2

SUBPROJECT NAME	LOCATION	DESCRIPTION	PROJECT MAP
Pipeline CIP 21001 (6,300 LF)	Orange Avenue, Lemon Avenue, and easement, within city of El Cajon. Fletcher Parkway, Gregory Street and Severin Drive in the City of La Mesa.	Replacement of 5,900 LF of cast-iron pipe in six segments, ranging from 12 to 16 inches. Includes the abandonment of a bad easement and installation of an additional 400 LF of 8-inch pipe.	Project Map 5.3
Pipeline CIP 21002 (6,700 LF)	Kiowa Drive, Melody Lane, Keeney Street, Mohawk Street, Culowee Street, Muriel Place, Cinnabar Street, Date Avenue, Spring Street, Panorama Drive, and easement within the city of La Mesa.	Replacement of 5,500 LF of cast-iron pipe in ten segments, ranging from 8 to 12 inches. Includes the abandonment of a bad easement and installation of an additional 1,200 LF of 10-inch pipe.	Project Map 5.4
Pipeline CIP 21003 (6,000 LF)	Manor Drive, West Cypress Avenue, Chambers Street, Alley, Alley and East Madison Avenue, within the city of El Cajon.	Replacement of 6,000 LF of cast-iron pipe in seven segments, ranging from 8 to 12 inches.	Project Map 5.5
Pipeline CIP 23001 (4,500 LF)	First Street in the city of El Cajon.	Replacement of 4,500 LF of cast-iron pipe.	Project Map 5.6
Johnstown Pump Station Replacement	9160 Pinkard Ln El Cajon, CA 92021	Replacement of the existing pump station.	Project Map 6

ENCLOSURE 2

Project Location Maps

PROJECT MAP 1

PROJECT MAP 2

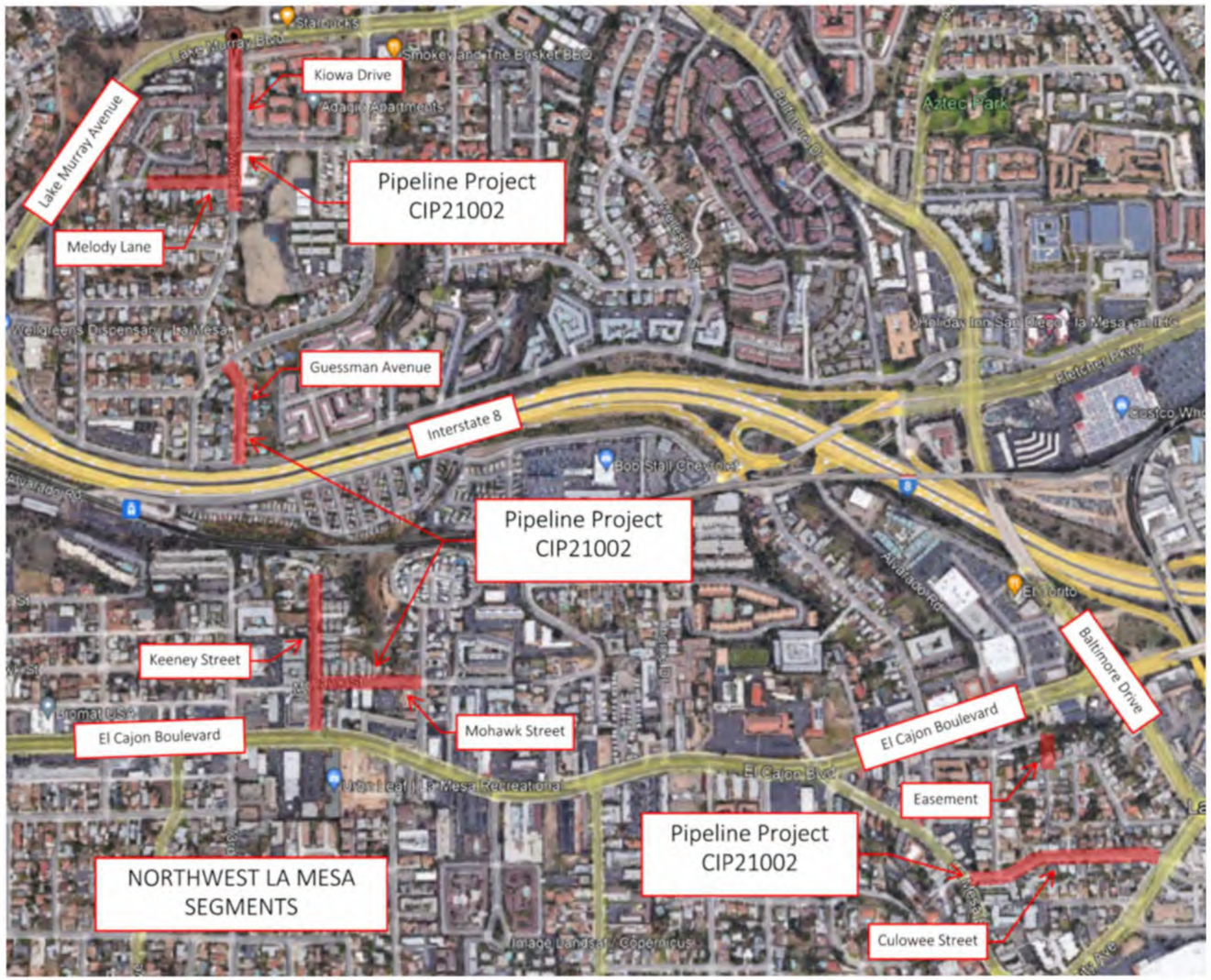
PROJECT MAP 3

PROJECT MAP 4

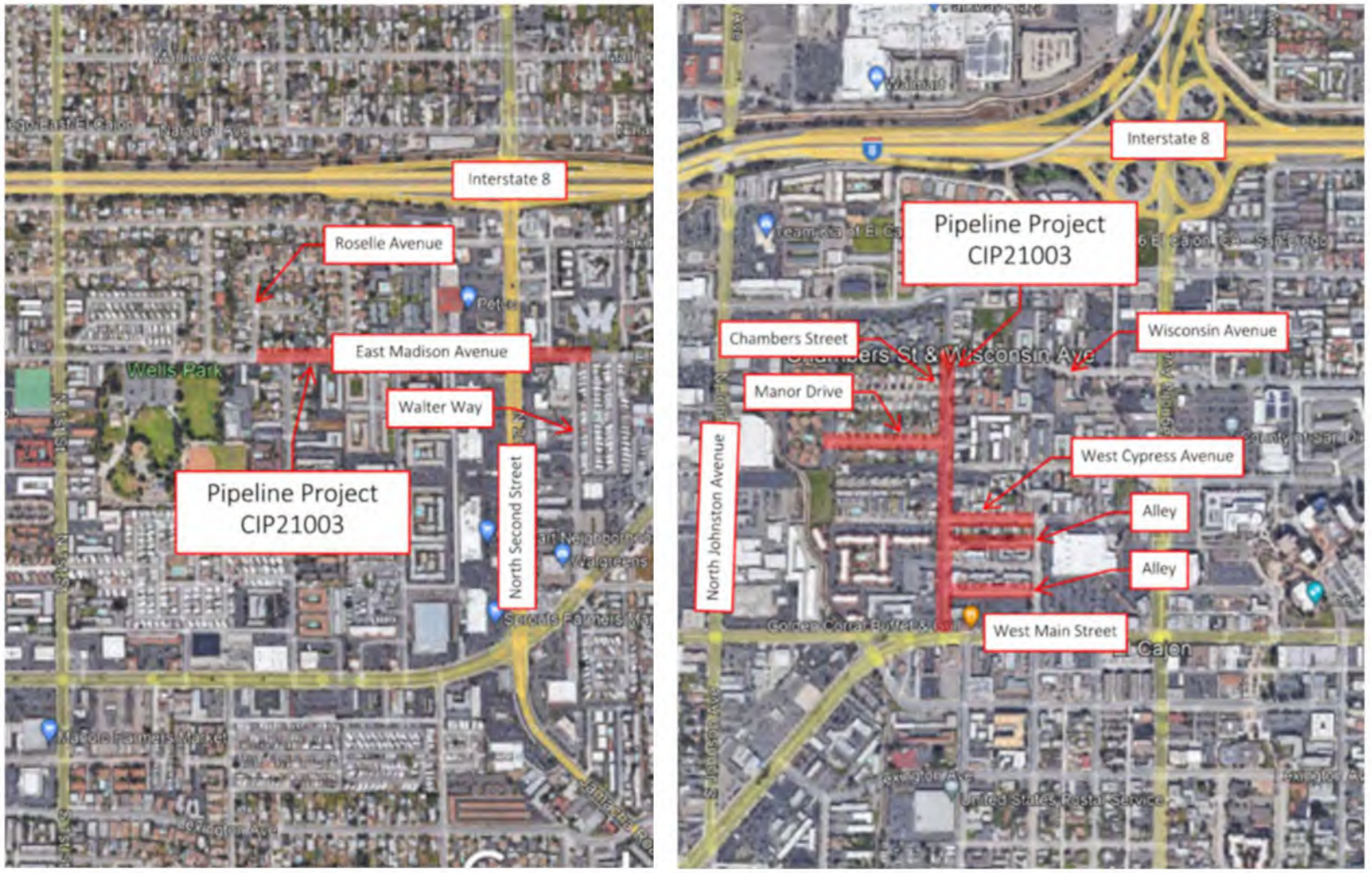
PROJECT MAP 5.1

PROJECT MAP 5.2

PROJECT MAP 5.3



PROJECT MAP 5.4



PROJECT MAP 5.5

PROJECT MAP 5.6

PROJECT MAP 6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Edwin Romero, Chairperson
Barona Group of the Capitan Grande
1095 Barona Road
Lakeside, CA 92040

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

Dear Chairperson Romero,

The U.S. Environmental Protection Agency (EPA) is initiating consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations 36 Code of Federal Regulation (CFR) Part 800 and is seeking your assistance with the identification of sites of religious and cultural significance for the undertaking in San Diego County, California.

The Helix Water District proposes to construct the Drinking Water Reliability Project in San Diego County, California and is seeking funds from the WIFIA Program to assist in financing the project. EPA administers the WIFIA Program and is the federal lead agency for the Undertaking.

The Water Infrastructure Finance and Innovation Act (WIFIA) was signed into law in 2014 and authorized the WIFIA program to be managed by EPA Headquarters. WIFIA was amended by section 1445 of the Fixing America's Surface Transportation Act of 2015 and section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016. WIFIA is a federal credit program for eligible water and wastewater infrastructure projects. EPA selected the Helix Water District to submit an application for credit assistance for the Undertaking.

Description of Undertaking

The Drinking Water Reliability Project's goal is to improve drinking water supply reliability within the Helix Water District service area and is comprised of six subprojects:

- Chet Harritt Pump Station Design and Construction
- Effluent meter at R.M. Levy Water Treatment Plant
- Aeration System at Lake Jennings
- Lake Jennings Outlet Tower
- Cast-Iron Pipeline Replacement

- Johnstown Pump Station Replacement

A written summary of the projects and their locations can be found in Enclosure 1. Figures depicting the project locations can be found in Enclosure 2.

Area of Potential Effects

Pursuant to 36 CFR 800.16[d], an area of potential effects (APE) has been identified for each of the project components to facilitate the assessment of potential effects the undertaking may have on historic properties.

EPA is defining the APE for direct impacts as the footprint where work is expected to occur, including the level of ground disturbance and the height of new above ground structures. An indirect APE has been defined as a 50-foot buffer for the pipeline projects and ¼ mile buffer for projects that include the construction of new above ground structures.

Summary of Identification Efforts

Under Section 800.4 (b), an effort was made to identify historic properties. On April 29, 2022, EPA reviewed the National Register of Historic Places (NRHP), which indicated there were no eligible or listed properties within the APE.

A cultural resource report was completed for a prior project (not in the Undertaking) at the R.M. Levy Water Treatment Plant in March 2021 by Helix Environmental Planning. This previous cultural report included a records search at the South Coastal Information Center on September 19, 2019. The Chet Harritt Pump Station, Effluent Flow Meter at R.M Levy Water Treatment Plant, Aeration System at Lake Jennings, and Lake Jennings Outlet Tower projects fall within the ¼ mile search radius of a previously completed cultural resources records search. The records search identified two recorded resources, both marine shell scatter with no associated artifacts, approximately 0.18-mile northwest of the project areas.

A search of the Native American Heritage Commission's (NAHC) Sacred Lands File was positive for the project area. The NAHC indicated that the Barona Group of the Capitan Grande, Viejas Band of Kumeyaay Indians, and the Kumeyaay Cultural Repatriation Committee should be contacted for more information.

Due to the cultural sensitivity of the Aeration System at Lake Jennings Project area an archaeological and Native American monitoring program will be implemented for initial grading or other ground-disturbing activities (i.e., trenching for utilities). The monitoring program would include attendance by the archaeologist and Native American monitor at a preconstruction meeting with the construction contractor and the presence of archaeological and Native American monitors during initial ground-disturbing activities on site. Both archaeological and Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with Helix Water District staff and the Monitoring Tribe to develop and implement appropriate mitigation measures.

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EPA contact for this undertaking, Ashley Longrie at longrie.ashley@epa.gov or 202-564-1935. Thank you for your assistance.

Sincerely,

Alejandro Escobar, Branch Chief
Technical Support Branch
WIFA Management Division
Office of Wastewater Management

Enclosures (2)

1. Project Description and Location Summary
2. Project Location Maps

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Ralph Goff, Chairperson
Campo Band of Diegueno Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

Dear Chairperson Goff,

The U.S. Environmental Protection Agency (EPA) is initiating consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations 36 Code of Federal Regulation (CFR) Part 800 and is seeking your assistance with the identification of sites of religious and cultural significance for the undertaking in San Diego County, California.

The Helix Water District proposes to construct the Drinking Water Reliability Project in San Diego County, California and is seeking funds from the WIFIA Program to assist in financing the project. EPA administers the WIFIA Program and is the federal lead agency for the Undertaking.

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Description of Undertaking

The Drinking Water Reliability Project's goal is to improve drinking water supply reliability within the Helix Water District service area and is comprised of six subprojects:

- Chet Harritt Pump Station Design and Construction
- Effluent meter at R.M. Levy Water Treatment Plant
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- Johnstown Pump Station Replacement

A written summary of the projects and their locations can be found in Enclosure 1. Figures depicting the project locations can be found in Enclosure 2.

Area of Potential Effects

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WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Robert Pinto, Chairperson
Ewiiaapaayp Band of Kumeyaay Indians
4054 Willows Road
Alpine, CA 91901

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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Technical Support Branch
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cc.
Michael Garcia, Vice Chairperson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Virgil Perez, Chairperson
Iipay Nation of Santa Ysabel
P.O. Box 130
Schoolhouse Canyon Rd
Santa Ysabel, CA, 92070

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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Technical Support Branch
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Rebecca Osuna, Chairperson
Inaja-Cosmit Band of Indians
2005 S. Escondido Blvd.
Escondido, CA, 92025'

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Lisa Cumper, Tribal Historic Preservation Officer
Jamul Indian Villiage
P.O. Box 612
Jamul, CA 91935

ELECTRONIC SUBMISSION

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Erica Pinto, Chairperson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Carmen Lucas
Kwaaymii Laguna Band of Mission Indians
P.O. Box 775
Pine Valley, CA 91962

ELECTRONIC SUBMISSION

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

Gwendolyn Parada, Chairperson
La Posta Band of Diegueno Mission Indians
8 Crestwood Road
Boulevard, CA 91905

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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- Effluent meter at R.M. Levy Water Treatment Plant
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- Cast-Iron Pipeline Replacement

- Johnstown Pump Station Replacement

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EPA contact for this undertaking, Ashley Longrie at longrie.ashley@epa.gov or 202-564-1935. Thank you for your assistance.

Sincerely,

Alejandro Escobar, Branch Chief
Technical Support Branch
WIFA Management Division
Office of Wastewater Management

Enclosures (2)

1. Project Description and Location Summary
2. Project Location Maps

cc.
Javaughn Miller, Tribal Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Angela Elliott Santos, Chairperson
Manzanita Band of Kumeyaay nation
P.O. Box 1302
Boulevard, CA 91905

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

Dear Chairperson Santos,

The U.S. Environmental Protection Agency (EPA) is initiating consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations 36 Code of Federal Regulation (CFR) Part 800 and is seeking your assistance with the identification of sites of religious and cultural significance for the undertaking in San Diego County, California.

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Alejandro Escobar, Branch Chief
Technical Support Branch
WIFA Management Division
Office of Wastewater Management

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Michael Linton, Chairperson
Mesa Grande Band of Diegueno Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Allen Lawson, Chairperson
San Pasqual Band of Diegueno Mission Indians
P.O. Box 365
Valley Center, CA 920820

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

Cody Martinez, Chairperson
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

ELECTRONIC SUBMISSION

National Historic Preservation Act (NHPA), Section 106 Consultation for the proposed for Helix Water District's Drinking Water Reliability Project (Undertaking) San Diego County, California; Water Infrastructure Finance and Innovation Act (WIFIA) Program

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

May 4, 2022

John Christman, Chairperson
Viejas Band of Kumeyaay Indians
1 Viejas Grade Road
Alpine, CA 91901

ELECTRONIC SUBMISSION

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Technical Support Branch
WIFA Management Division
Office of Wastewater Management

Enclosures (2)

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From: Longrie, Ashley
Sent: Tuesday, June 14, 2022 2:18 PM
To: clint@redtailenvironmental.com
Subject: RE: EPA WIFIA Helix Water District 106 NHPA
Attachments: EPA Helix Water Ground Disturbance Summay.xlsx

Follow Up Flag: Follow up
Flag Status: Completed

Good Afternoon,

I am following up to provide additional information and responses based on our previous call on May 20, 2022 related to Helix Water District's Drinking Water Reliability Project in San Diego County, California.

- The attached spreadsheet outlines the anticipated level of ground disturbance for the projects.
- **Cast-Iron Pipeline Replacement projects:** Where possible, the existing pipelines will be removed and the new pipelines placed in the existing alignment. When necessary parallel alignments will be used and new alignments will be located within the paved roadway. It will be determined as design progresses for each project if the existing alignments can be used.
    - At this time, it is known that for the CIP 21003 project the existing pipelines will be removed and the new pipelines will be placed within the existing alignments.
- **Local/agency jurisdiction for the projects given they fall within various localities:** Helix is a self-permitting agency, however, the local cities will review designs. Encroachment permits for pipeline projects will be applied for within the city the project is located. For example, if one of the Cast Iron Pipeline projects alignment is in El Cajon, the District will coordinate with the city of El Cajon. The projects near Lake Jennings are under the jurisdiction of San Diego County.
- **Consultant:** The District has contracted Black and Veatch to assist with further cultural analysis and reports related to the Chet Harritt Pump Station, Effluent Meter at R.M. Levy Water Treatment Plant and Aeration System at Lake Jennings projects.

Hopefully this further answers some of your questions. Please let me know if I can provide any additional information or clarification!

Thank you,

Ashley Longrie
Environmental Engineer, Technical Support Branch
WIFIA Management Division
Office of Wastewater Management
U.S. Environmental Protection Agency
(C) 202-578-5942
(O) 202-564-1935
longrie.ashley@epa.gov
Learn more about WIFIA
Sign up for WIFIA'S Mailing List

From: Longrie, Ashley
Sent: Friday, May 20, 2022 15:38
To: clint@redtailenvironmental.com
Subject: EPA WIFIA Helix Water District 106 NHPA

Hi Clint,

It was nice to talk to you today. I hope the additional information provided in this email will assist in your review. I will also reach out to Helix Water District about your questions and get back to you with additional information!

The Helix Water District proposes to construct the Drinking Water Reliability Project in San Diego County, California and is seeking funds from the WIFIA Program to assist in financing the project. The WIFIA program is authorized under the Water Infrastructure Finance and Innovation Act and is a federal credit program for eligible water and wastewater infrastructure projects. The U.S. Environmental Protection Agency (EPA) administers the WIFIA Program and is the federal lead agency for the Project..

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In the meantime please don’t hesitate to reach out if you have any additional questions about the project.

Thank you,

Ashley Longrie

Environmental Engineer, Technical Support Branch
WIFIA Management Division
Office of Wastewater Management
U.S. Environmental Protection Agency
(C) 202-578-5942
(O) 202-564-1935
longrie.ashley@epa.gov
Learn more about WIFIA
Sign up for WIFIA'S Mailing List

From: Ray Teran
To: Longrie, Ashley
Cc: Ernest Pingleton
Subject: Helix Water District"s Drinking Water Reliability Project
Date: Wednesday, May 11, 2022 17:00:46
Attachments: ATT00001.txt

The Viejas Band of Kumeyaay Indians (“Viejas”) has reviewed the proposed project and at this time we have determined that the project site has cultural significance or ties to Viejas. Cultural resources have been located within or adjacent to the APE-DE of the proposed project.

Viejas Band request that a Kumeyaay Cultural Monitor be on site for ground disturbing activities and to inform us of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains.

If you wish to utilize Viejas cultural monitors (Viejas rate is $54.15/hr. plus GSA mileage), please call Ernest Pingleton at 619-655-0410 or email, epingleton@viejas-nsn.gov, for contracting and scheduling. Thank you.

Ray Teran
Viejas Tribal Government
Resource Management Director
619-659-2312
rteran@viejas-nsn.gov

24 August 2022

Jason Roberts
Black & Veatch
11401 Lamar Avenue
Overland Park, Kansas 66211

RE: Paleontological Records Search – Helix Water District Project

Dear Mr. Roberts:

This letter presents the results of a paleontological records search conducted for the Helix Water District Project (Project), located in the community of Lakeside in southwestern San Diego County, California. The Project is located along the west side of Lake Jennings, and extends from the shoreline along Bass Drive, across Lake Jennings Park Road, to the existing Clearwell Tank (Figure 1). The purpose of the Project is the replacement and enhancement of existing Helix Water District equipment, including the replacement of the Chet Harritt Pump Station, installation of 800 linear feet of conduit duct bank, installation of an aeration system within Lake Jennings, installation of 950 linear feet of new aeration piping, installation of an effluent flowmeter adjacent to the existing Clearwell Tank, and improvements to the existing Chet Harritt Dam Seepage and Sump System.

Methods

A review of published geological maps covering the Project site and surrounding area was conducted to determine the specific geologic units underlying the Project site. Each geologic unit was subsequently assigned a paleontological resource sensitivity (Deméré and Walsh, 1993). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur within the Project site or in the immediate surrounding area.

Results

Published geological reports (e.g., Todd, 2004) covering the Project area indicate that the proposed Project has the potential to impact Early Cretaceous-age metavolcanic rocks. This geologic unit and its paleontological sensitivity are summarized below. The SDNHM does not have any recorded fossil localities that lie within one mile of the Project site.

Mesozoic metavolcanic rocks (partially equivalent to the Santiago Peak Volcanics) –

The Project site is entirely underlain by Early Cretaceous-age (~145 to 100 million years old) metavolcanic rocks, which generally consist of screens of amphibolite-facies metavolcanic tuff, tuff-breccia, and andesitic, dacitic, and basaltic flow rocks, along with sparse metaquartzite, schist, and cobble metaconglomerate (Todd, 2004). Metavolcanic rocks do not preserve fossils due to their original extrusive volcanic origin under extremely high temperatures and later deformation in high temperature and/or high pressure conditions.

Summary and Recommendations

As discussed above, the Project site is underlain by non-fossil-bearing metavolcanic rocks assigned no paleontological sensitivity. Construction-related earthwork activities (e.g., grading, trenching) are not anticipated to result in significant impacts to paleontological resources, and therefore paleontological monitoring is not recommended during construction of this Project.

If you have any questions concerning these findings, please feel free to contact me at kmueller@sdnhm.org.

Sincerely,

Kirstin Mueller
Assistant Report Writer
San Diego Natural History Museum

Enc: Figure 1 – Project map

Literature Cited

Deméré, T.A., and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Unpublished technical report prepared for the San Diego County Department of Public Works: 1–68.

San Diego Natural History Museum (SDNHM), unpublished paleontological collections data.

Todd, V.R. 2004. Preliminary geologic map of the El Cajon 30’ x 60’ quadrangle, southern California. USGS Open-File Report 2004-1361.

Figure 1: Records Search Map, Helix Water District Project, San Diego County, California

PROJECT MAP 1

PROJECT MAP 2

PROJECT MAP 3

PROJECT MAP 4

Appendix D. Geotechnical Report and United States Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Resource Report

CHRISTIAN WHEELER
ENGINEERING

REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

PREPARED FOR

BLACK & VEATCH
300 RANCHEROS DRIVE, SUITE 250
SAN MARCOS, CALIFORNIA 92069

PREPARED BY

CHRISTIAN WHEELER ENGINEERING
3980 HOME AVENUE
SAN DIEGO, CALIFORNIA 92105

CHRISTIAN WHEELER
ENGINEERING

April 19, 2022

Black & Veatch
300 Rancheros Drive, Suite 250
San Marcos, California 92069
Attention: John T. Bekmanis

CWE 2210500.01

Subject: Report of Preliminary Geotechnical Investigation
Chet Harritt Pump Station, 9738 Lake Jennings Park Road, Lakeside, California

Ladies and Gentlemen:

In accordance with your request and our proposal dated February 9, 2022, we have completed a preliminary geotechnical investigation for the proposed improvements to be constructed at the subject property. We are presenting herewith a report of our findings and recommendations.

It is our opinion and judgment that no geotechnical conditions exist at or in the vicinity of the subject property that would preclude the construction of the proposed project, provided the recommendations included in this report are implemented.

If you have any questions after reviewing this report, please do not hesitate to contact our office. This opportunity to be of professional service is sincerely appreciated.

Respectfully submitted,
CHRISTIAN WHEELER ENGINEERING

Daniel B. Adler, RCE #36037

Daniel J. Flowers, CEG #2686

DBA:dba:djf
ec: BekmanisJT@bv.com
HaugDA@bv.com

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CHRISTIAN WHEELER
ENGINEERING

PRELIMINARY GEOTECHNCIAL INVESTIGATION

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

INTRODUCTION AND PROJECT DESCRIPTION

This report presents the geotechnical investigation for the proposed improvements to the Chet Harritt Pump Station located at 9738 Lake Jennings Park Road, Lakeside, California. The following Figure Number 1 presents a vicinity map showing the location of the property.

The subject project consists of the construction of a structure to house a new pump station facility, hosing pump room, electrical room and compressor room. In addition, new aeration pipelines will extend up the hill into the reservoir along an existing auxiliary road that connects to Bass Drive. It is anticipated that the proposed structure will be of concrete/masonry with steel joist and deck roof construction, supported by shallow foundations and incorporate a concrete slab-on-grade.

A Google Earth image was used to prepare a Site Plan and Geotechnical Map, and is included herein as Plate No. 1.

This report has been prepared for the exclusive use of Black & Veach and its design consultants, for specific application to the project described herein. Should the project be modified, the conclusions and recommendations presented in this report should be reviewed by Christian Wheeler Engineering for conformance with our recommendations and to determine whether any additional subsurface investigation, laboratory testing and/or recommendations are necessary. Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, expressed or implied.

SITE VICINITY

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	FIGURE NO.:	1

CHRISTIAN WHEELER
ENGINEERING

SCOPE OF SERVICES

Our preliminary geotechnical investigation consisted of surface reconnaissance, subsurface exploration, obtaining representative soil samples, laboratory testing, analysis of the field and laboratory data, and review of relevant geologic literature. Our scope of service did not include assessment of hazardous substance contamination, evaluation or design of storm water infiltration facilities, or any other services not specifically described in the scope of services presented below.

More specifically, the scope of our proposed investigation was to:

- Drill 3, eight-inch diameter borings, in the general locations as shown on the provided Google® Earth plan utilizing a truck- mounted drill rig to explore existing soil conditions and obtain soil samples for laboratory testing.
- Backfill the boring holes using a grout or a grout/bentonite mix as required by the County of San Diego Department of Environmental Health.
- Evaluate, by laboratory tests and our past experience with similar soil types, the engineering properties of the various soil strata that may influence the proposed construction, including bearing capacities, expansive characteristics and settlement potential.
- Describe the general geology at the site including possible geologic hazards that could have an effect on the proposed construction, and provide the seismic design parameters in accordance with the 2019 edition of the California Building Code.
- Discuss potential construction difficulties that may be encountered due to soil conditions, groundwater, or geologic hazards, and provide geotechnical recommendations to mitigate identified construction difficulties.
- Provide site preparation and grading recommendations for the anticipated work.
- Provide soil/rock excavation characteristics and present our professional opinions and recommendations on rippability.
- Provide earth retaining wall design recommendations.
- Provide foundation recommendations for the type of construction anticipated and develop soil engineering design criteria for the recommended foundation designs.
- If rock is encountered, present our professional opinions and recommendations on rippability.
- Prepare this preliminary geotechnical report which presents the results of our investigation, a plot plan showing the location of our subsurface explorations, excavation logs, laboratory test results, and our conclusions and recommendations for the proposed project.

FINDINGS

SITE DESCRIPTION

The subject site is located primarily within the existing Chet Harritt Pump Station located at 9738 Lake Jennings Park Road, in the Lakeside Community of San Diego County, California. The existing pump station is accessed via a paved driveway that extends southwest from the intersection of Lake Jennings Park Road and Julian Avenue. The pump station presently consists of a graded pad that supports a building and associated paved parking lot and driveway. The proposed project also consists of ascending sloping terrain traversed by Lake Jennings Park Road. According to Google® Earth, approximate pad elevation within the proposed structure location at the pump station is 505 feet. Existing slopes north from the pump station range to a combined height of about 200 feet.

GENERAL GEOLOGY AND SUBSURFACE CONDITIONS

GEOLOGIC SETTING AND SOIL DESCRIPTION: The subject site is located in the Foothills Physiographic Province of San Diego County. Based upon the findings of our subsurface explorations and review of readily available, pertinent geologic and geotechnical literature, it was determined that the areas investigated are generally underlain by artificial fill, older alluvium, and metavolcanic rock. These materials are described below and our subsurface exploration logs are presented in Appendix A of this report.

ARTIFICIAL FILL: Artificial fill was encountered underlying the area of the pump station investigated. As encountered in the subsurface explorations, the fill soils extended to a depth of about 6 feet and 8½ feet below existing grade in borings B-1 and B-2, respectively. Deeper fill soils may exist in areas of the property not investigated. The fill material consisted of brown and light brown, damp, medium dense and dense, silty sand (SM) and sandy silt (ML) with some rock fragments. The fill soils were judged to have a low Expansion Index (EI between 21 and 50).

Fill soils encountered in the boring drilled near the Chet Harritt Dam spillway (boring B-4) extended to a depth of about 4 feet below existing grade. The fill material consisted of light yellowish-brown, damp, very dense, silty sand with rock fragments (SM). The fill soils were judged to have a low Expansion Index (EI between 21 and 50).

OLDER ALLUVIUM (Qoal): Older alluvium was encountered underlying the artificial fill in borings B-1 and B-2 and is anticipated to underlie the area of the site to support the proposed pump

station. As encountered in boring B-2, the older alluvium extended to the maximum exploration depth of about 19½ below existing grade. However, deeper older alluvium may exist in areas of the property not investigated. The older alluvium consisted of light and dark reddish-brown, damp and moist, hard, sandy silt and clayey silt with gravels (ML). The older alluvium was judged to have a low Expansion Index (EI between 21 and 50).

METAVOLCANIC ROCK (Kmv): Cretaceous-age metavolcanic rock in various degrees of weathering was encountered underlying the fill soils and older alluvium. When excavated the weathered portions of the metavolcanic rock generally consist of light reddish-brown to yellowish-brown, damp, very dense, silty sand (SM). However, excavations into the unweathered metavolcanic rock will likely generate primarily boulders and rock fragments with little fines. The metavolcanic rock was judged to have a very low Expansion Index (EI<20).

GROUNDWATER: No groundwater or seepage was encountered in our subsurface exploration. However, groundwater related problems are not anticipated to affect the site upon completion of the proposed construction. It should be recognized that minor groundwater seepage problems might occur after construction and landscaping are completed, even at a site where none were present before construction. These are usually minor phenomena and are often the result of an alteration in drainage patterns and/or an increase in irrigation water. Based on the anticipated construction and the permeability of the on-site soils, it is our opinion that any seepage problems that may occur will be minor in extent. It is further our opinion that these problems can be most effectively corrected on an individual basis if and when they occur.

TECTONIC SETTING: It should be noted that much of Southern California, including the San Diego County area, is characterized by a series of Quaternary-age fault zones that consist of several individual, en echelon faults that generally strike in a northerly to northwesterly direction. Some of these fault zones (and the individual faults within the zone) are classified as active while others are classified as only potentially active according to the criteria of the California Division of Mines and Geology. Active fault zones are those which have shown conclusive evidence of faulting during the Holocene Epoch (the most recent 11,000 years) while potentially active fault zones have demonstrated movement during the Pleistocene Epoch (11,000 to 1.6 million years before the present) but no movement during Holocene time. Inactive faults are those faults that can be demonstrated to have no movement in the past 1.6 million years.

The active Rose Canyon Fault Zone is located approximately 18 miles southwest of the site. Other active fault zones in the region that could possibly affect the site include the Coronado Bank, San Diego Trough,

and San Clemente Fault Zones to the west, the Palos Verdes and Newport Inglewood Fault Zones to the northwest, and the Elsinore, Earthquake Valley, San Jacinto, and San Andreas Fault Zones to the northeast.

LANDSLIDE POTENTIAL AND SLOPE STABILITY: As part of this investigation we reviewed the publication, "Landslide Hazards in the Southern Part of the San Diego Metropolitan Area" by Tan, 1995. This reference is a comprehensive study that classifies San Diego County into areas of relative landslide susceptibility. The subject site is located in Relative Landslide Susceptibility Area 3-1. Area 3 is considered to be "generally susceptible" to slope movement; Subarea 3-1 classifications are considered at or near their stability limits due to steep slopes and can be expected to fail locally when adversely modified. Sites within this classification are located outside the boundaries of known landslides but may contain observably unstable slopes that may be underlain by weak materials and/or adverse geologic structure.

Based on the very competent nature of the metavolcanic rock that underlies the site, it is our opinion that the potential for landsliding at the subject site is low. Further, it is anticipated that the proposed construction will not increase the potential for slope instability on or immediately adjacent to the subject site.

LIQUEFACTION: The near-surface soils encountered at the site possess a low-risk potential for liquefaction due to such factors as soil density and the absence of a regional shallow groundwater condition.

FLOODING: As delineated on the Flood Insurance Rate Map (FIRM), map No. 06073C1660G prepared by the Federal Emergency Management Agency, the site is in Zone X which is considered to be an "area of minimal flood hazard." Areas of minimal flood hazards are located outside of the boundaries of both the 100-year and 500-year flood zones.

TSUNAMIS: Tsunamis are great sea waves produced by submarine earthquakes or volcanic eruptions. Due to the site's setback from the ocean and elevation, it will not be affected by a tsunami.

SEICHES: Seiches are periodic oscillations in large bodies of water such as lakes, harbors, bays or reservoirs. Although the site is located adjacent to Lake Jennings, due to the size and configuration of Lake Jennings, it is our opinion that the risk potential for damage caused by seiches is relatively low.

OTHER POTENTIAL GEOLOGIC HAZARDS: Other potential geologic hazards such as, volcanoes or seismic-induced settlement should be considered to be negligible or nonexistent.

CONCLUSIONS

In general, it is our professional opinion and judgment that the subject site is suitable for the construction of the proposed structure provided the recommendations presented herein are implemented. The main geotechnical condition affecting the proposed project consists of artificial fill.

The proposed pump station construction area is underlain by fill soils extending to depths ranging from about 6 feet to at 8½ feet below existing grade. The fill soils appear to be relatively well compacted. However, the evaluation of fill soils based on relatively small sampling is inherently very difficult, especially when the fill contains rock fragments. It is therefore our opinion that site preparation consisting of the partial removal and replacement as compacted fill of the existing fill soils is warranted. The final removal depths will be provided after project foundation plans are available.

Weathered metavolcanic rock was encountered underlying the fill soils at shallow depth in boring B-4, drilled near the Chet Harritt Dam spillway. It is anticipated that these materials are likely marginally rippable to a depth of 10 feet and below this depth non-rippable.

The site is located in an area that is relatively free of geologic hazards that will have a significant effect on the proposed construction. The most likely geologic hazard that could affect the site is ground shaking due to seismic activity along one of the regional active faults. However, construction in accordance with the requirements of the most recent edition of the California Building Code and the local governmental agencies should provide a level of life-safety suitable for the type of development proposed.

RECOMMENDATIONS

GRADING AND EARTHWORK

GENERAL: All grading should conform to the guidelines presented in the current edition of the California Building Code, the minimum requirements of the County of San Diego, and the recommended Grading Specifications and Special Provisions attached hereto, except where specifically superseded in the text of this report.

PREGRADE MEETING: It is recommended that a pregrade meeting including the grading contractor, the client, and a representative from Christian Wheeler Engineering be performed, to discuss the recommendations of this report and address any issues that may affect grading operations.

OBSERVATION OF GRADING: Continuous observation by the Geotechnical Consultant is essential during the grading operation to confirm conditions anticipated by our investigation, to allow adjustments in design criteria to reflect actual field conditions exposed, and to determine that the grading proceeds in general accordance with the recommendations contained herein.

CLEARING AND GRUBBING: Site preparation should begin with the demolition of any existing improvements in proposed construction areas. The resulting debris as well as any existing vegetation and other deleterious materials in areas to receive proposed improvements or new fill soils should be removed from the site.

SITE PREPARATION: It is recommended that artificial fill underlying the proposed structure and associated settlement sensitive improvements be removed to a minimum depth of 5 feet below proposed finish pad grade. Deeper removals may be necessary in areas of the site not investigated or due to unforeseen conditions. Lateral removals limits should extend at least 5 feet beyond the perimeter of the improvements. No removals should be performed beyond property line. All excavated areas should be approved by the geotechnical engineer or his representative prior to replacing any of the excavated soils. The excavated materials can be replaced as properly compacted fill in accordance with the recommendations presented in the "Compaction and Method of Filling" section of this report provided that they are free of roots.

PROCESSING OF FILL AREAS: Prior to placing any new fill soils or constructing any new improvements in areas that have been cleaned out to receive fill, the exposed soils should be scarified to a depth of about 12 inches, moisture conditioned, and compacted to at least 90 percent relative compaction.

EXCAVATION CHARACTERISTICS: It is anticipated that excavations in existing fill soils, older alluvium, and weathered metavolcanic rock may be performed with suitable sized conventional trenching equipment in good working order. However, the metavolcanic rock may be locally difficult to excavate with conventional trenching equipment. As encountered in boring B-4 the upper approximately 6 feet of metavolcanic rock appears marginally rippable but below this depth refusal was encountered signifying non-rippable rock.

COMPACTION AND METHOD OF FILLING: In general, all structural fill placed at the site should be compacted to a relative compaction of at least 90 percent of its maximum laboratory dry density as determined by ASTM Laboratory Test D1557. Fills should be placed at or slightly above optimum moisture content, in lifts six to eight inches thick, with each lift compacted by mechanical means. Fills should consist of approved earth material, free of trash or debris, roots, vegetation, or other materials determined to be unsuitable by the

Geotechnical Consultant. Fill material should be free of rocks or lumps of soil in excess of 6 inches in maximum dimension.

Utility trench backfill within 5 feet of the proposed structure and beneath all concrete flatwork or pavements should be compacted to a minimum of 90 percent of its maximum dry density.

SURFACE DRAINAGE: The drainage around the proposed improvements should be designed to collect and direct surface water away from proposed improvements toward appropriate drainage facilities and the top of slopes. Rain gutters with downspouts that discharge runoff away from the structure into controlled drainage devices are recommended. The ground around the proposed improvements should be graded so that surface water flows rapidly away from the improvements without ponding. In general, we recommend that the ground adjacent to structure slope away at a gradient of at least 5 percent for a minimum distance of 10 feet. If the minimum distance of 10 feet cannot be achieved, an alternative method of drainage runoff away from the building at the termination of the 5 percent slope will need to be used. Swales and impervious surfaces that are located within 10 feet of the building should have a minimum slope of 2 percent. It is essential that new and existing drainage patterns be coordinated to produce proper drainage. Pervious hardscape surfaces adjacent to structures should be similarly graded.

Drainage patterns provided at the time of construction should be maintained throughout the life of the proposed improvements. Site irrigation should be limited to the minimum necessary to sustain landscape growth. Over watering should be avoided. Should excessive irrigation, impaired drainage, or unusually high rainfall occur, zones of wet or saturated soil may develop.

TEMPORARY CUT SLOPES

The contractor is solely responsible for designing and constructing stable, temporary excavations and will need to shore, slope, or bench the sides of trench excavations as required to maintain the stability of the excavation sides. The contractor's "competent person", as defined in the OSHA Construction Standards for Excavations, 29 CFR, Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety process. We anticipate that the existing fill soils and alluvium will consist of Type C material, whereas the metavolcanic rock will consist of type B material. Our firm should be contacted to observe all temporary cut slopes during grading to ascertain that no unforeseen adverse conditions exist. No surcharge loads such as foundation loads, or soil or equipment stockpiles, vehicles, etc. should be allowed within a distance from the top of temporary slopes equal to half the slope height.

FOUNDATIONS

GENERAL: Based on our findings and engineering judgment, the proposed structure and associated improvements may be supported on foundations extending into newly compacted fill soils. The following recommendations are considered the minimum based on the anticipated soil conditions, and are not intended to be lieu of structural considerations. All foundations should be designed by a qualified engineer.

DIMENSIONS: Spread footings supporting the proposed structure should be embedded at least 12 inches and 18 inches below lowest adjacent finish pad grade, for single and two-story structures, respectively, and extend at least 12 inches into very old paralic deposits, whichever is more. Spread footings supporting associated exterior improvements should be embedded at least 12 inches below lowest adjacent finish pad grade. Continuous and isolated footings should have a minimum width of 12 inches and 24 inches, respectively. Retaining wall footings should be at least 18 inches deep and 24 inches wide.

BEARING CAPACITY: Spread footings supporting the proposed structure may be designed for an allowable soil bearing pressure of 2,000 pounds per square foot (psf). This value may be increased by 600 psf for each additional foot of embedment and 400 psf for each additional foot of width up to a maximum of 4,000 psf. These values may be increased by one-third for combinations of temporary loads such as those due to wind or seismic loads.

FOOTING REINFORCING: Reinforcement requirements for foundations should be provided by a structural designer. However, based on the expected soil conditions, we recommend that the minimum reinforcing for continuous footings consist of at least 2 No. 5 bars positioned near the bottom of the footing and 2 No. 5 bars positioned near the top of the footing.

LATERAL LOAD RESISTANCE: Lateral loads against foundations may be resisted by friction between the bottom of the footing and the supporting soil, and by the passive pressure against the footing. The coefficient of friction between concrete and soil may be considered to be 0.3. The passive resistance may be considered to be equal to an equivalent fluid weight of 300 pounds per cubic foot. These values are based on the assumption that the footings are poured tight against undisturbed soil. If a combination of the passive pressure and friction is used, the friction value should be reduced by one-third.

FOUNDATION EXCAVATION OBSERVATION: All footing excavations should be observed by Christian Wheeler Engineering prior to placing of forms and reinforcing steel to determine whether the foundation recommendations presented herein are followed and that the foundation soils are as anticipated in

the preparation of this report. All footing excavations should be excavated neat, level, and square. All loose or unsuitable material should be removed prior to the placement of concrete.

SETTLEMENT CHARACTERISTICS: The anticipated total and differential footing settlement is expected to be less than about 1 inch and 1 inch in 40 feet, respectively, provided the recommendations presented in this report are followed. It should be recognized that minor cracks normally occur in concrete slabs and foundations due to concrete shrinkage during curing or redistribution of stresses, therefore some cracks should be anticipated. Such cracks are not necessarily an indication of excessive vertical movements.

EXPANSIVE CHARACTERISTICS: The prevailing foundation soils were found to have a low expansive potential (EI between 21 and 50). The recommendations within this report reflect this condition.

FOUNDATION PLAN REVIEW: The final foundation plan and accompanying details and notes should be submitted to this office for review. The intent of our review will be to verify that the plans used for construction reflect the minimum dimensioning and reinforcing criteria presented in this section and that no additional criteria are required due to changes in the foundation type or layout. It is not our intent to review structural plans, notes, details, or calculations to verify that the design engineer has correctly applied the geotechnical design values. It is the responsibility of the design engineer to properly design/specify the foundations and other structural elements based on the requirements of the structure and considering the information presented in this report.

CORROSION: The water-soluble sulfate content and water-soluble chloride of a selected soil sample from the site was determined in accordance with California Test Method 417 and California Test Method 422, respectively. The pH and resistivity were determined in accordance with California Test Method 643. Test results are presented in Appendix B.

It should be understood Christian Wheeler Engineering does not practice corrosion engineering. If a corrosivity analysis is considered necessary, we recommend that the client retain an engineering firm that specializes in this field to consult with them on this matter. The results of our corrosion testing should only be used as a guideline to determine if additional testing and analysis is necessary.

SEISMIC DESIGN FACTORS

The seismic design factors applicable to the subject site are provided below. The seismic design factors were determined in accordance with the 2019 California Building Code. The site coefficients and adjusted

maximum considered earthquake spectral response acceleration parameters are presented in the following Table I.

TABLE I: SEISMIC DESIGN FACTORS

Site Coordinates: Latitude Longitude	32.858° -116.897°
Site Class	D
Site Coefficient F_a	1.19
Site Coefficient F_v	2.016
Spectral Response Acceleration at Short Periods S_s	0.774 g
Spectral Response Acceleration at 1 Second Period S_1	0.284 g
$S_{MS}=F_aS_s$	0.922 g
$S_{M1}=F_vS_1$	0.573 g
$S_{DS}=2/3*S_{MS}$	0.614 g
$S_{D1}=2/3*S_{M1}$	0.382 g

Probable ground shaking levels at the site could range from slight to moderate, depending on such factors as the magnitude of the seismic event and the distance to the epicenter. It is likely that the site will experience the effects of at least one moderate to large earthquake during the life of the proposed improvements.

EARTH RETAINING WALLS

FOUNDATIONS: Foundations for any proposed retaining walls should be constructed in accordance with the foundation recommendations presented previously in this report.

PASSIVE PRESSURE: The passive pressure for the anticipated foundation soils may be considered to be 300 pounds per square foot per foot of depth. The upper foot of embedment should be neglected when calculating passive pressures, unless the foundation abuts a hard surface such as a concrete slab. The passive pressure may be increased by one-third for seismic loading. The coefficient of friction for concrete to soil may be assumed to be 0.30 for the resistance to lateral movement. When combining frictional and passive resistance, the friction should be reduced by one-third.

ACTIVE PRESSURE: The active soil pressure for the design of "unrestrained" and "restrained" earth retaining structures with level backfill may be assumed to be equivalent to the pressure of a fluid weighing 49 and 71 pounds per cubic foot, respectively. These pressures do not consider any other surcharge. If any are anticipated, this office should be contacted for the necessary increase in soil pressure. These values are based on a drained backfill condition.

Seismic lateral earth pressures may be assumed to equal an inverted triangle starting at the bottom of the wall with the maximum pressure equal to 4.7H pounds per square foot (where H = wall height in feet) occurring at the top of the wall.

WATERPROOFING AND WALL DRAINAGE SYSTEMS: The need for waterproofing should be evaluated by others. If required, the project architect should provide (or coordinate) waterproofing details for the retaining walls. The design values presented above are based on a drained backfill condition and do not consider hydrostatic pressures. The retaining wall designer should provide a detail for a wall drainage system. Typical retaining wall drain system details will be presented in Plate No. 2 for informational purposes. Additionally, outlet points for the retaining wall drain system should be coordinated with the project civil engineer.

BACKFILL: Retaining wall backfill soils should be compacted to at least 90 percent relative compaction. Expansive or clayey soils should not be used for backfill material. The wall should not be backfilled until the masonry has reached an adequate strength.

LIMITATIONS

REVIEW, OBSERVATION AND TESTING

The recommendations presented in this report are contingent upon our review of final plans and specifications. Such plans and specifications should be made available to the geotechnical engineer and engineering geologist so that they may review and verify their compliance with this report and with the California Building Code.

It is recommended that Christian Wheeler Engineering be retained to provide continuous soil engineering services during the earthwork operations. This is to verify compliance with the design concepts, specifications or recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

UNIFORMITY OF CONDITIONS

The recommendations and opinions expressed in this report reflect our best estimate of the project requirements based on an evaluation of the subsurface soil conditions encountered at the subsurface exploration locations and on the assumption that the soil conditions do not deviate appreciably from those

encountered. It should be recognized that the performance of the foundations and/or cut and fill slopes may be influenced by undisclosed or unforeseen variations in the soil conditions that may occur in the intermediate and unexplored areas. Any unusual conditions not covered in this report that may be encountered during site development should be brought to the attention of the geotechnical engineer so that he may make modifications if necessary.

CHANGE IN SCOPE

This office should be advised of any changes in the project scope or proposed site grading so that we may determine if the recommendations contained herein are appropriate. This should be verified in writing or modified by a written addendum.

TIME LIMITATIONS

The findings of this report are valid as of this date. Changes in the condition of a property can, however, occur with the passage of time, whether they be due to natural processes or the work of man on this or adjacent properties. In addition, changes in the Standards-of-Practice and/or Government Codes may occur. Due to such changes, the findings of this report may be invalidated wholly or in part by changes beyond our control. Therefore, this report should not be relied upon after a period of two years without a review by us verifying the suitability of the conclusions and recommendations.

PROFESSIONAL STANDARD

In the performance of our professional services, we comply with that level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions and in the same locality. The client recognizes that subsurface conditions may vary from those encountered at the locations where our borings, surveys, and explorations are made, and that our data, interpretations, and recommendations be based solely on the information obtained by us. We will be responsible for those data, interpretations, and recommendations, but shall not be responsible for the interpretations by others of the information developed. Our services consist of professional consultation and observation only, and no warranty of any kind whatsoever, express or implied, is made or intended in connection with the work performed or to be performed by us, or by our proposal for consulting or other services, or by our furnishing of oral or written reports or findings.

CLIENT'S RESPONSIBILITY

It is the responsibility of the Client, or its representatives, to ensure that the information and recommendations contained herein are brought to the attention of the structural engineer and architect for the project and incorporated into the project's plans and specifications. It is further their responsibility to take the necessary measures to ensure that the contractor and his subcontractors carry out such recommendations during construction.

FIELD EXPLORATIONS

Three subsurface explorations were excavated on February 16, 2022 at the locations indicated on the Site Plan and Geotechnical Maps included herewith as Plate No. 1. This exploration consisted of borings drilled utilizing a truck mounted drill rig (IR A-300). The fieldwork was conducted under the observation and direction of our engineering geology personnel.

Relatively undisturbed drive samples were collected using a modified California sampler. The sampler, with an external diameter of 3.0 inches, is lined with 1-inch long, thin, brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a 140-pound hammer falling 30 inches in general accordance with ASTM D 3550-84. The driving weight is permitted to fall freely. The number of blows per foot of driving, or as indicated, are presented on the boring logs as an index to the relative resistance of the sampled materials. The samples were removed from the sample barrel in the brass rings, and sealed. Bulk and chunk samples of the earth materials encountered were also collected. Samples were transported to our laboratory for testing.

LABORATORY TESTING

Laboratory tests were performed in accordance with the generally accepted American Society for Testing and Materials (ASTM) test methods or suggested procedures. A brief description of the tests performed and the subsequent results are presented in Appendix B.

W+E

Not to Scale

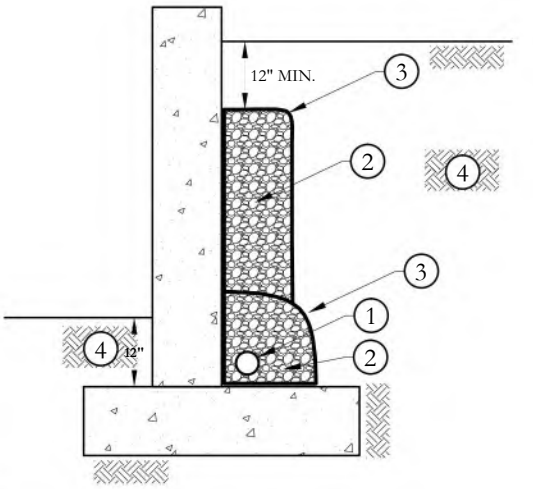
CWE LEGEND	
B-3	Approximate Boring Location
Qaf / Qoal / Kmv	Artificial Fill over Older Alluvium over Metavolcanic Rock
Qaf / Kmv	Artificial Fill over Metavolcanic Rock
Kmv	Metavolcanic Rock
? ?	Geologic Contact (Queried where Inferred)

SITE PLAN AND GEOTECHNICAL MAP

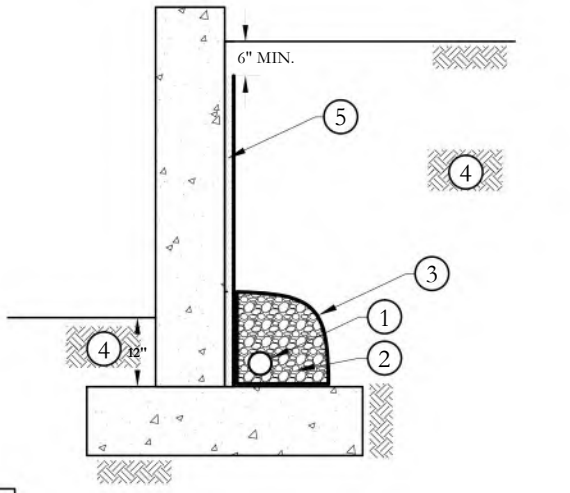
CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	PLATE NO.:	1

CHRISTIAN WHEELER ENGINEERING



1 DETAIL



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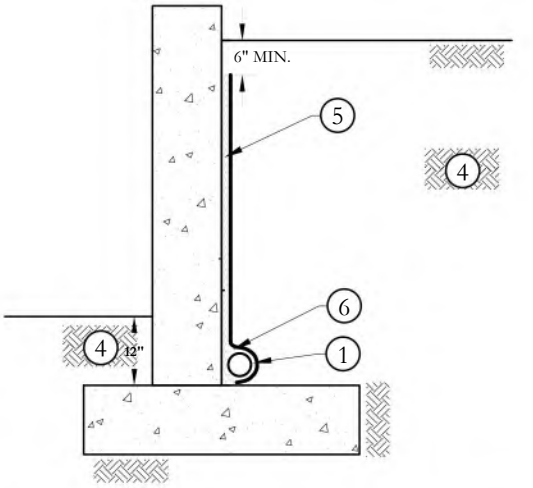

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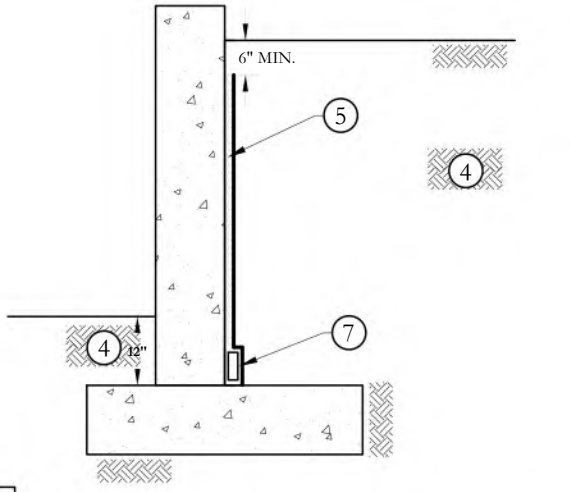

4 DETAIL

NOTES AND DETAILS

GENERAL NOTES:

1) THE NEED FOR WATERPROOFING SHOULD BE EVALUATED BY OTHERS.
2) WATERPROOFING TO BE DESIGNED BY OTHERS (CWE CAN PROVIDE A DESIGN IF REQUESTED).
3) EXTEND DRAIN TO SUITABLE DISCHARGE POINT PER CIVIL ENGINEER.
4) DO NOT CONNECT SURFACE DRAINS TO SUBDRAIN SYSTEM.

DETAILS:

1. 4-INCH PERFORATED PVC PIPE ON TOP OF FOOTING, HOLES POSITIONED DOWNWARD (SDR 35, SCHEDULE 40, OR EQUIVALENT).
2. ¾ INCH OPEN-GRADED CRUSHED AGGREGATE.
3. GEOFARBRIC WRAPPED COMPLETELY AROUND ROCK.
4. PROPERLY COMPACTED BACKFILL SOIL.
5. WALL DRAINAGE PANELS (MIRADRAIN OR EQUIVALENT) PLACED PER MANUFACTURER'S REC'S.
6. UNDERLAY SUBDRAIN WITH AND CUT FABRIC BACK FROM DRAINAGE PANELS AND WRAP FABRIC AROUND PIPE.
7. COLLECTION DRAIN (TOTAL DRAIN OR EQUIVALENT) LOCATED AT BASE OF WALL DRAINAGE PANEL PER MANUFACTURER'S RECOMMENDATIONS.

CANTILEVER RETAINING WALL DRAINAGE SYSTEMS

CHET HARRITT PUMP STATION
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LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	PLATE NO.:	2

CHRISTIAN WHEELER
ENGINEERING

Appendix A

Subsurface Explorations

LOG OF TEST BORING B-1

Date Logged:	2/16/22	Equipment:	IR A-300
Logged By:	ACC	Auger Type:	8 inch hollow stem
Existing Elevation:	Unknown	Drive Type:	140lbs/30 inches
Proposed Elevation:	Unknown	Depth to Water:	Unknown

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk
SPT	Standard Penetration Test	DR	Drive Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential	SD	Sample Density

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Brown, damp, medium dense, very fine- to fine-grained, SILTY SAND with gravel. Expansion Index = 10 (Very Low)							SA EI MD SO4 Chl Res DS
				Dense.	32**	Cal		9.3	116.4		
5					39	Cal					
			ML	**Older Alluvium (Qoal):** Reddish-brown, damp, hard, SANDY SILT with gravels.							
					50/4"	SPT*					
10					50/2"	SPT*					
					50/1"**	Cal*					
				Practical refusal on rock at 14 feet, possible bedrock. No groundwater or seepage encountered.							
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Non-Representative Blow Count (rocks present)

CHET HARRITT PUMP STATION
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LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	APPENDIX:	A-1

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST BORING B-2

Date Logged:	2/16/22	Equipment:	IR A-300
Logged By:	ACC	Auger Type:	8 inch hollow stem
Existing Elevation:	Unknown	Drive Type:	140lbs/30 inches
Proposed Elevation:	Unknown	Depth to Water:	Unknown

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk
SPT	Standard Penetration Test	DR	Drive Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential	SD	Sample Density

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Brown, damp, medium dense, very fine- to fine-grained, SILTY SAND with trace gravel, upper 12" disturbed.	22**	Cal		4.7	109.8		
5			ML	Light brown, damp, hard, SANDY SILT with trace gravel.	59	Cal		4.7	99.2		SA
10			ML	**Older Alluvium (Qoal):** Light reddish-brown, damp, very stiff, SANDY SILT with gravels.	31"**	Cal		6.5	118.3		
15				Dark reddish-brown, moist, hard, CLAYEY SILT with gravels.	55	Cal		12.4	123.1		SA
					54	Cal		14.7	109.3		
20				Terminated at 19.5 feet. No groundwater or seepage encountered.							
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Non-Representative Blow Count (rocks present)

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	APPENDIX:	A-2

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST BORING B-3

Date Logged:	2/16/22	Equipment:	IR A-300
Logged By:	ACC	Auger Type:	8 inch hollow stem
Existing Elevation:	Unknown	Drive Type:	140lbs/30 inches
Proposed Elevation:	Unknown	Depth to Water:	Unknown

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk
SPT	Standard Penetration Test	DR	Drive Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential	SD	Sample Density

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Light yellowish-brown, damp, very dense, very fine- to coarse-grained, SILTY SAND with gravel.	50/6"	Cal		14.0	86.0		SA SO4 Chl Res
5			SM	**Weathered Metavolcanic Rock (Kmv):** Light yellowish-brown, damp, very dense, very fine- to coarse-grained, SILTY SAND.	50/5"	Cal		12.5	105.9		SA
					50/3"	Cal*					
10				Practical refusal at 10 feet. No groundwater or seepage encountered.							
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Non-Representative Blow Count (rocks present)

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.01
BY:	SD	APPENDIX:	A-3

CHRISTIAN WHEELER ENGINEERING

Appendix B

Laboratory Test Results

Laboratory tests were performed in accordance with the generally accepted American Society for Testing and Materials (ASTM) test methods or suggested procedures. Brief descriptions of the tests performed are presented below:

a) **CLASSIFICATION:** Field classifications were verified in the laboratory by visual examination. The final soil classifications are in accordance with the Unified Soil Classification System and are presented on the exploration logs in Appendix A.

b) **MOISTURE-DENSITY: MOISTURE-DENSITY:** In-place moisture contents and dry densities were determined for selected soil samples in accordance with ATM D 2937. The results are summarized in the boring logs presented in Appendix A.

c) **MAXIMUM DRY DENSITY AND OPTIUM MOISTURE CONTENT TEST:** The maximum dry density and optimum moisture content of selected soil samples were determined in the laboratory in accordance with ASTM D 1557, Method A.

d) **DIRECT SHEAR:** Direct shear tests were performed on selected samples of the on-site soils in accordance with ASTM D 3080.

e) **EXPANSION INDEX TEST:** An expansion index test was performed on a selected remolded soil sample in accordance with ASTM D 4829.

f) **GRAIN SIZE DISTRIBUTION:** The grain size distribution of selected soil samples was determined in accordance with ASTM C136 and/or ASTM D422.

g) **SOLUBLE SULFATES:** The soluble sulfate content of a selected soil sample was determined in accordance with California Test Method 417.

h) **SOLUBLE CHLORIDE CONTENT:** The soluble chloride content of a selected sample was determined in accordance with California Test Methods 422.

i) **pH and RESISTIVITY:** The pH and Resistivity of a selected sample was determined in accordance with California Test Methods 643.

LABORATORY TEST RESULTS

CHET HARRITT PUMP STATION

9738 LAKE JENNINGS PARK ROAD

LAKESIDE, CALIFORNIA

MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT (ASTM D1557)

Sample Location	**Boring B-1 @ 0-5'**
Sample Description	Brown Silty Sand (SM)
Maximum Density	128.8 pcf
Optimum Moisture	9.0 %

DIRECT SHEAR (ASTM D3080)

Sample Location	**Boring B-1 @ 0-5'**
Sample Type	Remolded to 90%
Friction Angle	26°
Cohesion	250 psf

EXPANSION INDEX TESTS (ASTM D4829)

Sample Location	**Boring B-1 @ 0-5'**
Initial Moisture:	7.4 %
Initial Dry Density	121.3 pcf
Final Moisture:	14.0 %
Expansion Index:	10 (Very Low)

GRAIN SIZE DISTRIBUTION (ASTM D422)

Sample Location	**Boring B-1 @ 0-5'**	**Boring B-2 @ 4'-8'**	**Boring B-2 @ 12½'-16'**	**Boring B-3 @ 0-4'**
Sieve Size	*Percent Passing*	*Percent Passing*	*Percent Passing*	*Percent Passing*
2"	100			100
1½"	96	100		99
1"	90	99		97
¾"	87	97	100	94
½"	83	93	97	89
⅜"	81	91	96	85
#4	78	86	93	76
#8	75	83	91	66
#16	70	78	89	59
#30	66	75	87	53
#50	60	71	86	48
#100	54	65	84	40
#200	41	52	70	30

LABORATORY TEST RESULTS (CONT.)

Sample Location	**Boring B-3 @ 4'-8'**
Sieve Size	*Percent Passing*
1½"	100
1"	84
¾"	71
½"	63
⅜"	59
#4	51
#8	45
#16	41
#30	37
#50	33
#100	28
#200	21

CORROSIVITY TESTS

Sample No.	CALTEST 643		CALTEST 417	CALTEST 422
	Resistivity (ohm-cm)	pH	Sulfate Content (% SO_4)	Chloride Content (%)
B-1 @ 0-5'	4,000	8.1	0.004	0.002

CORROSIVITY STANDARDS

Building Code Requirements for Structural Concrete (ACI 318-11)
Table 4.2.1 Exposure Categories and Classes & Table 4.3.1 Requirements for Concrete by Exposure Class

Severity	Water-Soluble Sulfate in Soil Percentage by Weight	Cementitious Materials- Types (ASTM C150)	Maximum Water-cementitious Material Ratio (w/cm)	Minimum F'c, psi
Not Applicable	$SO_4 < 0.10$	No Type Restriction	N/A	2500
Moderate	$0.10 \leq SO_4 < 0.20$	II	0.50	4000
Severe	$0.20 \leq SO_4 \leq 2.00$	V	0.45	4500
Very Severe	SO4 > 2.00	V+ Pozzolan or Slag	0.45	4500

* See ACI 318-11 for exceptions and additional requirements

California Department of Transportation (DOT), Division of Engineering Services
Material Engineering and Testing, Corrosion and Structural Concrete, Field Investigation Branch
Corrosion Guidelines, Version 2.1, January 2015

Corrosive Environment	Resistivity (ohm-cm)	pH	Soluble Sulfate (%)	Chloride (%)
	<1000 *	**<5.5**	**>0.2**	**>0.05**

*Soil and water that have a minimum resistivity equal to or less than, 1,000 ohm-cm are required to be tested by a certified lab for chlorides and sulfates per CT417 and CT422.

For structural elements, the DOT considers a site to be corrosive if one or more of the conditions (pH, sulfate concentration, or chloride concentation) exists for the soil and/or water samples taken at the site.

CHET HARRITT PUMP STATION
LAKESIDE,CALIFORNIA

BY: DBA	DATE: April 2022	REPORT NO.:2210500.1	Plate No. B-4

Appendix C

References

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Appendix D

Recommended Grading Specifications – General Provisions

RECOMMENDED GRADING SPECIFICATIONS - GENERAL PROVISIONS

CHET HARRITT PUMP STATION
9738 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

GENERAL INTENT

The intent of these specifications is to establish procedures for clearing, compacting natural ground, preparing areas to be filled, and placing and compacting fill soils to the lines and grades shown on the accepted plans. The recommendations contained in the preliminary geotechnical investigation report and/or the attached Special Provisions are a part of the Recommended Grading Specifications and shall supersede the provisions contained hereinafter in the case of conflict. These specifications shall only be used in conjunction with the geotechnical report for which they are a part. No deviation from these specifications will be allowed, except where specified in the geotechnical report or in other written communication signed by the Geotechnical Engineer.

OBSERVATION AND TESTING

Christian Wheeler Engineering shall be retained as the Geotechnical Engineer to observe and test the earthwork in accordance with these specifications. It will be necessary that the Geotechnical Engineer or his representative provide adequate observation so that he may provide his opinion as to whether or not the work was accomplished as specified. It shall be the responsibility of the contractor to assist the Geotechnical Engineer and to keep him appraised of work schedules, changes and new information and data so that he may provide these opinions. In the event that any unusual conditions not covered by the special provisions or preliminary geotechnical report are encountered during the grading operations, the Geotechnical Engineer shall be contacted for further recommendations.

If, in the opinion of the Geotechnical Engineer, substandard conditions are encountered, such as questionable or unsuitable soil, unacceptable moisture content, inadequate compaction, adverse weather, etc., construction should be stopped until the conditions are remedied or corrected or he shall recommend rejection of this work.

Tests used to determine the degree of compaction should be performed in accordance with the following American Society for Testing and Materials test methods:

Maximum Density & Optimum Moisture Content - ASTM D1557
Density of Soil In-Place - ASTM D1556 or ASTM D2922

All densities shall be expressed in terms of Relative Compaction as determined by the foregoing ASTM testing procedures.

PREPARATION OF AREAS TO RECEIVE FILL

All vegetation, brush and debris derived from clearing operations shall be removed, and legally disposed of. All areas disturbed by site grading should be left in a neat and finished appearance, free from unsightly debris.

After clearing or benching the natural ground, the areas to be filled shall be scarified to a depth of 6 inches, brought to the proper moisture content, compacted and tested for the specified minimum degree of compaction. All loose soils in excess of 6 inches thick should be removed to firm natural ground which is defined as natural soil which possesses an in-situ density of at least 90 percent of its maximum dry density.

When the slope of the natural ground receiving fill exceeds 20 percent (5 horizontal units to 1 vertical unit), the original ground shall be stepped or benched. Benches shall be cut to a firm competent formational soil. The lower bench shall be at least 10 feet wide or 1-1/2 times the equipment width, whichever is greater, and shall be sloped back into the hillside at a gradient of not less than two (2) percent. All other benches should be at least 6 feet wide. The horizontal portion of each bench shall be compacted prior to receiving fill as specified herein for compacted natural ground. Ground slopes flatter than 20 percent shall be benched when considered necessary by the Geotechnical Engineer.

Any abandoned buried structures encountered during grading operations must be totally removed. All underground utilities to be abandoned beneath any proposed structure should be removed from within 10 feet of the structure and properly capped off. The resulting depressions from the above-described procedure should be backfilled with acceptable soil that is compacted to the requirements of the Geotechnical Engineer. This includes, but is not limited to, septic tanks, fuel tanks, sewer lines or leach lines, storm drains and water lines. Any buried structures or utilities not to be abandoned should be brought to the attention of the Geotechnical Engineer so that he may determine if any special recommendation will be necessary.

All water wells which will be abandoned should be backfilled and capped in accordance to the requirements set forth by the Geotechnical Engineer. The top of the cap should be at least 4 feet below finish grade or 3

feet below the bottom of footing whichever is greater. The type of cap will depend on the diameter of the well and should be determined by the Geotechnical Engineer and/or a qualified Structural Engineer.

FILL MATERIAL

Materials to be placed in the fill shall be approved by the Geotechnical Engineer and shall be free of vegetable matter and other deleterious substances. Granular soil shall contain sufficient fine material to fill the voids. The definition and disposition of oversized rocks and expansive or detrimental soils are covered in the geotechnical report or Special Provisions. Expansive soils, soils of poor gradation, or soils with low strength characteristics may be thoroughly mixed with other soils to provide satisfactory fill material, but only with the explicit consent of the Geotechnical Engineer. Any import material shall be approved by the Geotechnical Engineer before being brought to the site.

PLACING AND COMPACTION OF FILL

Approved fill material shall be placed in areas prepared to receive fill in layers not to exceed 6 inches in compacted thickness. Each layer shall have a uniform moisture content in the range that will allow the compaction effort to be efficiently applied to achieve the specified degree of compaction. Each layer shall be uniformly compacted to the specified minimum degree of compaction with equipment of adequate size to economically compact the layer. Compaction equipment should either be specifically designed for soil compaction or of proven reliability. The minimum degree of compaction to be achieved is specified in either the Special Provisions or the recommendations contained in the preliminary geotechnical investigation report. When the structural fill material includes rocks, no rocks will be allowed to nest and all voids must be carefully filled with soil such that the minimum degree of compaction recommended in the Special Provisions is achieved. The maximum size and spacing of rock permitted in structural fills and in non-structural fills is discussed in the geotechnical report, when applicable.

Field observation and compaction tests to estimate the degree of compaction of the fill will be taken by the Geotechnical Engineer or his representative. The location and frequency of the tests shall be at the Geotechnical Engineer's discretion. When the compaction test indicates that a particular layer is at less than the required degree of compaction, the layer shall be reworked to the satisfaction of the Geotechnical Engineer and until the desired relative compaction has been obtained.

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction by sheepsfoot roller shall be at vertical intervals of not greater than four feet. In addition, fill slopes at a ratio of

two horizontal to one vertical or flatter, should be trackrolled. Steeper fill slopes shall be over-built and cut-back to finish contours after the slope has been constructed. Slope compaction operations shall result in all fill material six or more inches inward from the finished face of the slope having a relative compaction of at least 90 percent of maximum dry density or the degree of compaction specified in the Special Provisions section of this specification. The compaction operation on the slopes shall be continued until the Geotechnical Engineer is of the opinion that the slopes will be surficially stable.

Density tests in the slopes will be made by the Geotechnical Engineer during construction of the slopes to determine if the required compaction is being achieved. Where failing tests occur or other field problems arise, the Contractor will be notified that day of such conditions by written communication from the Geotechnical Engineer or his representative in the form of a daily field report.

If the method of achieving the required slope compaction selected by the Contractor fails to produce the necessary results, the Contractor shall rework or rebuild such slopes until the required degree of compaction is obtained, at no cost to the Owner or Geotechnical Engineer.

CUT SLOPES

The Engineering Geologist shall inspect cut slopes excavated in rock or lithified formational material during the grading operations at intervals determined at his discretion. If any conditions not anticipated in the preliminary report such as perched water, seepage, lenticular or confined strata of a potentially adverse nature, unfavorably inclined bedding, joints or fault planes are encountered during grading, these conditions shall be analyzed by the Engineering Geologist and Geotechnical Engineer to determine if mitigating measures are necessary.

Unless otherwise specified in the geotechnical report, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of the controlling governmental agency.

ENGINEERING OBSERVATION

Field observation by the Geotechnical Engineer or his representative shall be made during the filling and compaction operations so that he can express his opinion regarding the conformance of the grading with acceptable standards of practice. Neither the presence of the Geotechnical Engineer or his representative or the observation and testing shall release the Grading Contractor from his duty to compact all fill material to the specified degree of compaction.

SEASON LIMITS

Fill shall not be placed during unfavorable weather conditions. When work is interrupted by heavy rain, filling operations shall not be resumed until the proper moisture content and density of the fill materials can be achieved. Damaged site conditions resulting from weather or acts of God shall be repaired before acceptance of work.

RECOMMENDED GRADING SPECIFICATIONS - SPECIAL PROVISIONS

RELATIVE COMPACTION: The minimum degree of compaction to be obtained in compacted natural ground, compacted fill, and compacted backfill shall be at least 90 percent. For street and parking lot subgrade, the upper six inches should be compacted to at least 95 percent relative compaction.

EXPANSIVE SOILS: Detrimentally expansive soil is defined as clayey soil which has an expansion index of 50 or greater when tested in accordance with the Uniform Building Code Standard 29-2.

OVERSIZED MATERIAL: Oversized fill material is generally defined herein as rocks or lumps of soil over 6 inches in diameter. Oversized materials should not be placed in fill unless recommendations of placement of such material are provided by the Geotechnical Engineer. At least 40 percent of the fill soils shall pass through a No. 4 U.S. Standard Sieve.

TRANSITION LOTS: Where transitions between cut and fill occur within the proposed building pad, the cut portion should be undercut a minimum of one foot below the base of the proposed footings and recompacted as structural backfill. In certain cases that would be addressed in the geotechnical report, special footing reinforcement or a combination of special footing reinforcement and undercutting may be required.

CHRISTIAN WHEELER
ENGINEERING

REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION

PROPOSED NEW VALVE VAULT
HELIX WATER DISTRICT RM LEVY TREATMENT PLANT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

PREPARED FOR

BLACK & VEATCH
300 RANCHEROS DRIVE, SUITE 250
SAN MARCOS, CALIFORNIA 92069

PREPARED BY

CHRISTIAN WHEELER ENGINEERING
3980 HOME AVENUE
SAN DIEGO, CALIFORNIA 92105

CHRISTIAN WHEELER
ENGINEERING

April 19, 2022

Black & Veatch
300 Rancheros Drive, Suite 250
San Marcos, California 92069
Attention: John T. Bekmanis

CWE 2210500.02

Subject: Report of Preliminary Geotechnical Investigation
Proposed New Valve Vault, Helix Water District RM Levy Treatment Plant
9550 Lake Jennings Park Road, Lakeside, California

Ladies and Gentlemen:

In accordance with your request and our proposal dated February 9, 2022, we have completed a preliminary geotechnical investigation for the proposed new valve vault to be constructed at the subject property. We are presenting herewith a report of our findings and recommendations.

It is our opinion and judgment that no geotechnical conditions exist at or in the vicinity of the subject property that would preclude the construction of the proposed project, provided the recommendations included in this report are implemented.

If you have any questions after reviewing this report, please do not hesitate to contact our office. This opportunity to be of professional service is sincerely appreciated.

Respectfully submitted,
CHRISTIAN WHEELER ENGINEERING

Daniel B. Adler, RCE #36037

Daniel J. Flowers, CEG #2686

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HaugDA@bv.com

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CHRISTIAN WHEELER
ENGINEERING

PRELIMINARY GEOTECHNCIAL INVESTIGATION

PROPOSED NEW VALVE VAULT
HELIX WATER DISTRICT RM LEVY TREATMENT PLANT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

INTRODUCTION AND PROJECT DESCRIPTION

This report presents the geotechnical investigation for the proposed new valve vault to be located within the Helix Water District RM Levy treatment plant at 9550 Lake Jennings Park Road, Lakeside, California. The following Figure Number 1 presents a vicinity map showing the location of the property.

We understand that the subject project will consist of a concrete vault about 12 feet square, extending to a depth of about 14 feet below existing grade. It is anticipated that the vault will be supported by shallow foundations. Grading will be limited to excavations necessary to accommodate the proposed construction.

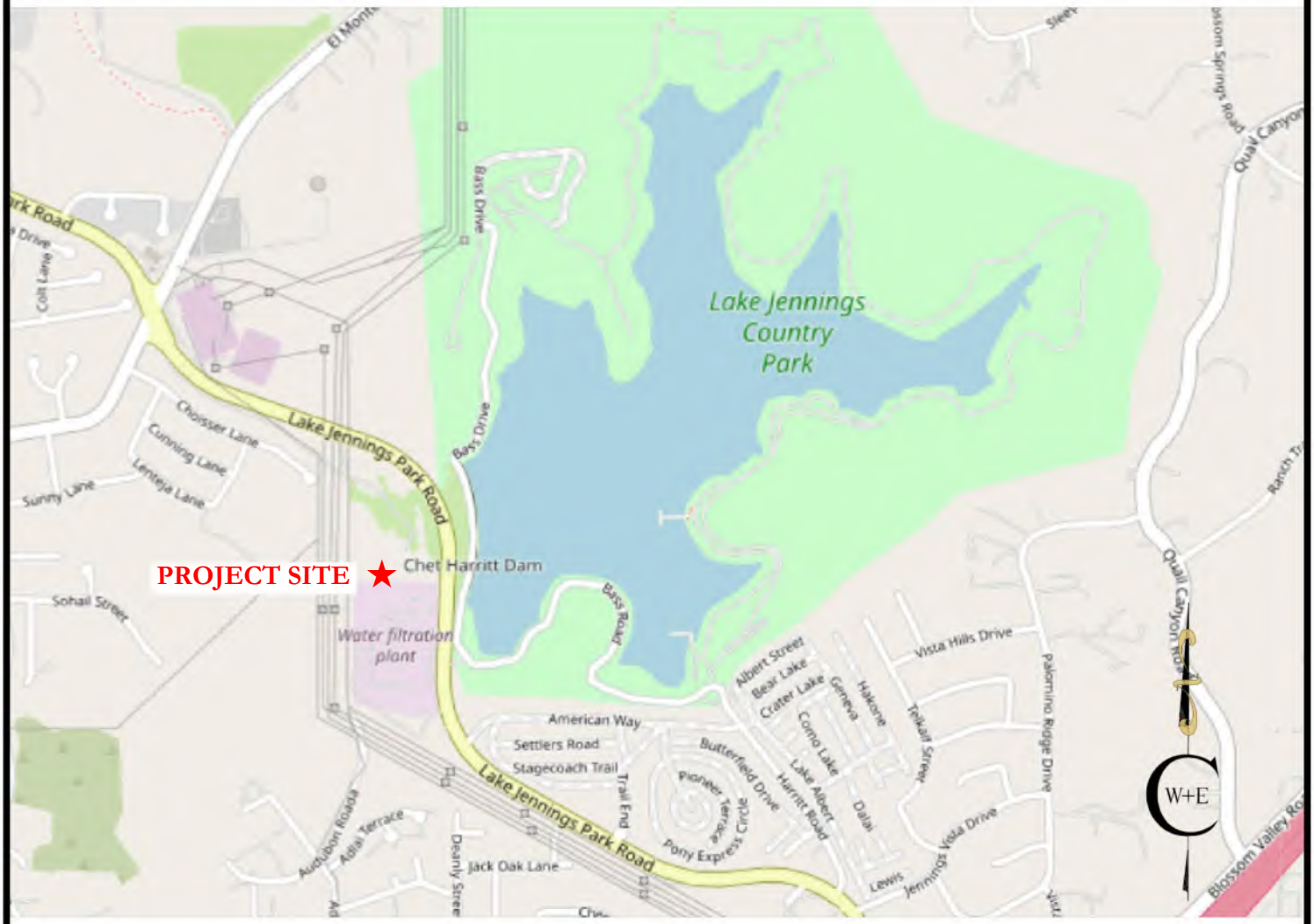
A Google Earth image was used to prepare a Site Plan and Geotechnical Map, and is included herein as Plate No. 1.

This report has been prepared for the exclusive use of Black & Veach and its design consultants, for specific application to the project described herein. Should the project be modified, the conclusions and recommendations presented in this report should be reviewed by Christian Wheeler Engineering for conformance with our recommendations and to determine whether any additional subsurface investigation, laboratory testing and/or recommendations are necessary. Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, expressed or implied.

SCOPE OF SERVICES

Our preliminary geotechnical investigation consisted of surface reconnaissance, subsurface exploration, obtaining representative soil samples, laboratory testing, analysis of the field and laboratory data, and review

SITE VICINITY



PROPOSED NEW VALVE VAULT, HELIX WATER DISTRICT RM LEVY TREATMENT PLANT 9550 LAKE JENNINGS PARK ROAD LAKESIDE, CALIFORNIA			
DATE:	APRIL 2022	JOB NO.:	2210500.02
BY:	SD	FIGURE NO.:	1

CHRISTIAN WHEELER
ENGINEERING

of relevant geologic literature. Our scope of service did not include assessment of hazardous substance contamination, evaluation or design of storm water infiltration facilities, or any other services not specifically described in the scope of services presented below.

More specifically, the scope of our proposed investigation was to:

- Drill 1, eight-inch diameter boring in the general location as shown on the provided Google® Earth plan utilizing a truck- mounted drill rig to explore existing soil conditions and obtain soil samples for laboratory testing.
- Backfill the boring hole using a grout or a grout/bentonite mix as required by the County of San Diego Department of Environmental Health.
- Evaluate, by laboratory tests and our past experience with similar soil types, the engineering properties of the various soil strata that may influence the proposed construction, including bearing capacities, expansive characteristics and settlement potential.
- Describe the general geology at the site including possible geologic hazards that could have an effect on the proposed construction, and provide the seismic design parameters in accordance with the 2019 edition of the California Building Code.
- Discuss potential construction difficulties that may be encountered due to soil conditions, groundwater, or geologic hazards, and provide geotechnical recommendations to mitigate identified construction difficulties.
- Provide site preparation and grading recommendations for the anticipated work.
- Provide soil/rock excavation characteristics and present our professional opinions and recommendations on rippability.
- Provide earth retaining wall design recommendations.
- Provide foundation recommendations for the type of construction anticipated and develop soil engineering design criteria for the recommended foundation designs.
- If rock is encountered, present our professional opinions and recommendations on rippability.
- Prepare this preliminary geotechnical report which presents the results of our investigation, a plot plan showing the location of our subsurface explorations, excavation logs, laboratory test results, and our conclusions and recommendations for the proposed project.

FINDINGS

SITE DESCRIPTION

The subject site is located within the existing RM Levy Treatment Plant located at 9550 Lake Jennings Park Road, in the Lakeside Community of San Diego County, California. The RM Levy Treatment Plant presently consists of graded pads that support buildings, water tanks, and associated paved parking lots and driveways. The area of the proposed work is located at the northwest end of the site in an unimproved area at the top of a fill over natural slope. The slope descends from the project area approximately 130 feet at an estimated 2:1 (horizontal to vertical) inclination or flatter to the valley below where the Chet Harrit Pump Station is located. According to Google® Earth, the project area is at an elevation of about 645 feet.

GENERAL GEOLOGY AND SUBSURFACE CONDITIONS

GEOLOGIC SETTING AND SOIL DESCRIPTION: The subject site is located in the Foothills Physiographic Province of San Diego County. Based upon the findings of our subsurface explorations and review of readily available, pertinent geologic and geotechnical literature, it was determined that the proposed construction areas are generally underlain by artificial fill and metavolcanic rock. These materials are described below and our subsurface exploration logs are presented in Appendix A of this report.

ARTIFICIAL FILL: Artificial fill associated with previous grading operations at the site was encountered underlying the area of the site investigated. As encountered in the subsurface exploration, the fill soils extended to a depth of about 8 feet below existing grade. However, deeper fill soils may exist in areas of the property not investigated. The fill material consisted of light reddish-brown, damp, very dense, silty sand with rock fragments (SM). The fill soils were judged to have a very low Expansion Index (EI<20).

METAVOLCANIC ROCK (Kmv): Cretaceous-age metavolcanic rock in various degrees of weathering was encountered underlying the fill soils. When excavated the weathered portions of the metavolcanic rock generally consist of light reddish-brown, damp, very dense, silty sand (SM). However, excavations into the unweathered metavolcanic rock will likely generate primarily boulders and rock fragments with little fines. The metavolcanic rock was judged to have a very low Expansion Index (EI<20).

GROUNDWATER: No groundwater or seepage was encountered in our subsurface exploration. However, groundwater related problems are not anticipated to affect the site upon completion of the proposed construction. It should be recognized that minor groundwater seepage problems might occur after construction and landscaping are completed, even at a site where none were present before construction. These are usually minor phenomena and are often the result of an alteration in drainage patterns and/or an increase in irrigation water. Based on the anticipated construction and the permeability of the on-site soils, it is our opinion that any seepage problems that may occur will be minor in extent. It is further our opinion that these problems can be most effectively corrected on an individual basis if and when they occur.

TECTONIC SETTING: It should be noted that much of Southern California, including the San Diego County area, is characterized by a series of Quaternary-age fault zones that consist of several individual, en echelon faults that generally strike in a northerly to northwesterly direction. Some of these fault zones (and the individual faults within the zone) are classified as active while others are classified as only potentially active according to the criteria of the California Division of Mines and Geology. Active fault zones are those which have shown conclusive evidence of faulting during the Holocene Epoch (the most recent 11,000 years) while potentially active fault zones have demonstrated movement during the Pleistocene Epoch (11,000 to 1.6 million years before the present) but no movement during Holocene time. Inactive faults are those faults that can be demonstrated to have no movement in the past 1.6 million years.

The active Rose Canyon Fault Zone is located approximately 18 miles southwest of the site. Other active fault zones in the region that could possibly affect the site include the Coronado Bank, San Diego Trough, and San Clemente Fault Zones to the west, the Palos Verdes and Newport Inglewood Fault Zones to the northwest, and the Elsinore, Earthquake Valley, San Jacinto, and San Andreas Fault Zones to the northeast.

LANDSLIDE POTENTIAL AND SLOPE STABILITY: As part of this investigation we reviewed the publication, "Landslide Hazards in the Southern Part of the San Diego Metropolitan Area" by Tan, 1995. This reference is a comprehensive study that classifies San Diego County into areas of relative landslide susceptibility. The subject site is located in Relative Landslide Susceptibility Area 3-1. Area 3 is considered to be "generally susceptible" to slope movement; Subarea 3-1 classifications are considered at or near their stability limits due to steep slopes and can be expected to fail locally when adversely modified. Sites within this classification are located outside the boundaries of known landslides but may contain observably unstable slopes that may be underlain by weak materials and/or adverse geologic structure.

Based on the very competent nature of the metavolcanic rock that underlies the site, it is our opinion that the potential for landsliding at the subject site is low. Further, it is anticipated that the proposed construction will not increase the potential for slope instability on or immediately adjacent to the subject site.

LIQUEFACTION: The near-surface soils encountered at the site possess a low-risk potential for liquefaction due to such factors as soil density and the absence of a regional shallow groundwater condition.

FLOODING: As delineated on the Flood Insurance Rate Map (FIRM), map No. 06073C1660G prepared by the Federal Emergency Management Agency, the site is in Zone X which is considered to be an "area of minimal flood hazard." Areas of minimal flood hazards are located outside of the boundaries of both the 100-year and 500-year flood zones.

TSUNAMIS: Tsunamis are great sea waves produced by submarine earthquakes or volcanic eruptions. Due to the site's setback from the ocean and elevation, it will not be affected by a tsunami.

SEICHES: Seiches are periodic oscillations in large bodies of water such as lakes, harbors, bays or reservoirs. Although the site is located adjacent to Lake Jennings, due to the size and configuration of Lake Jennings, it is our opinion that the risk potential for damage caused by seiches is relatively low.

OTHER POTENTIAL GEOLOGIC HAZARDS: Other potential geologic hazards such as, volcanoes or seismic-induced settlement should be considered to be negligible or nonexistent.

CONCLUSIONS

In general, it is our professional opinion and judgment that the subject site is suitable for the construction of the proposed vault provided the recommendations presented herein are implemented. The main geotechnical conditions affecting the proposed project consist of potentially compressible artificial fill.

The proposed construction area is underlain by fill soils extending to a depth of about 8 feet. The fill soils appear to be in a very dense condition. Weathered metavolcanic rock was encountered underlying the fill soils. It is anticipated that these materials are rippable, and excavations may be performed with suitable excavation equipment. However, based on the size of the anticipated excavation, variations in rippability characteristics may occur.

The site is located in an area that is relatively free of geologic hazards that will have a significant effect on the proposed construction. The most likely geologic hazard that could affect the site is ground shaking due to seismic activity along one of the regional active faults. However, construction in accordance with the requirements of the most recent edition of the California Building Code and the local governmental agencies should provide a level of life-safety suitable for the type of development proposed.

RECOMMENDATIONS

GRADING AND EARTHWORK

EXCAVATION CHARACTERISTICS: The existing fill soils and weathered metavolcanic rock were found to be generally very dense. It is anticipated that excavations in these materials may be performed with suitable sized conventional trenching equipment in good working order. However, the weathered rock may be locally difficult to excavate with conventional trenching equipment.

COMPACTION AND METHOD OF FILLING: In general, all structural fill placed at the site should be compacted to a relative compaction of at least 90 percent of its maximum laboratory dry density as determined by ASTM Laboratory Test D1557. Fills should be placed at or slightly above optimum moisture content, in lifts six to eight inches thick, with each lift compacted by mechanical means. Fills should consist of approved earth material, free of trash or debris, roots, vegetation, or other materials determined to be unsuitable by the Geotechnical Consultant. Fill material should be free of rocks or lumps of soil in excess of 6 inches in maximum dimension.

SURFACE DRAINAGE: The drainage around the proposed improvements should be designed to collect and direct surface water away from proposed improvements toward appropriate drainage facilities and the top of slopes. Rain gutters with downspouts that discharge runoff away from the structure into controlled drainage devices are recommended.

TEMPORARY CUT SLOPES

The contractor is solely responsible for designing and constructing stable, temporary excavations and will need to shore, slope, or bench the sides of trench excavations as required to maintain the stability of the excavation sides. The contractor's "competent person", as defined in the OSHA Construction Standards for Excavations, 29 CFR, Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety process. We anticipate that the existing fill soils will consist of Type C material, whereas

the metavolcanic rock will consist of type B material. Our firm should be contacted to observe all temporary cut slopes during grading to ascertain that no unforeseen adverse conditions exist. No surcharge loads such as foundation loads, or soil or equipment stockpiles, vehicles, etc. should be allowed within a distance from the top of temporary slopes equal to half the slope height.

FOUNDATIONS

GENERAL: Based on our findings and engineering judgment, the proposed vault may be supported on foundations extending into metavolcanic rock. The following recommendations are considered the minimum based on the anticipated soil conditions, and are not intended to be lieu of structural considerations. All foundations should be designed by a qualified engineer.

DIMENSIONS: Spread footings supporting the proposed vault should be embedded at least 18 inches below lowest adjacent finish pad grade. Continuous footings should have a minimum width of 24 inches.

BEARING CAPACITY: Spread footings supporting the proposed structure may be designed for an allowable soil bearing pressure of 5,000 pounds per square foot (psf). This value may be increased by 900 psf for each additional foot of embedment and 700 psf for each additional foot of width up to a maximum of 10,000 psf. These values may be increased by one-third for combinations of temporary loads such as those due to wind or seismic loads.

FOOTING REINFORCING: Reinforcement requirements for foundations should be provided by a structural designer.

LATERAL LOAD RESISTANCE: Lateral loads against foundations may be resisted by friction between the bottom of the footing and the supporting soil, and by the passive pressure against the footing. The coefficient of friction between concrete and soil may be considered to be 0.4. The passive resistance may be considered to be equal to an equivalent fluid weight of 400 pounds per cubic foot. These values are based on the assumption that the footings are poured tight against undisturbed soil. If a combination of the passive pressure and friction is used, the friction value should be reduced by one-third.

FOUNDATION EXCAVATION OBSERVATION: All footing excavations should be observed by Christian Wheeler Engineering prior to placing of forms and reinforcing steel to determine whether the foundation recommendations presented herein are followed and that the foundation soils are as anticipated in

the preparation of this report. All footing excavations should be excavated neat, level, and square. All loose or unsuitable material should be removed prior to the placement of concrete.

SETTLEMENT CHARACTERISTICS: The anticipated total and differential footing settlement is expected to be less than about ¼ inch and ¼ inch in 40 feet, respectively, provided the recommendations presented in this report are followed. It should be recognized that minor cracks normally occur in concrete slabs and foundations due to concrete shrinkage during curing or redistribution of stresses, therefore some cracks should be anticipated. Such cracks are not necessarily an indication of excessive vertical movements.

EXPANSIVE CHARACTERISTICS: The prevailing foundation soils were found to have a very low expansive potential (EI<20). The recommendations within this report reflect this condition.

FOUNDATION PLAN REVIEW: The final foundation plan and accompanying details and notes should be submitted to this office for review. The intent of our review will be to verify that the plans used for construction reflect the minimum dimensioning and reinforcing criteria presented in this section and that no additional criteria are required due to changes in the foundation type or layout. It is not our intent to review structural plans, notes, details, or calculations to verify that the design engineer has correctly applied the geotechnical design values. It is the responsibility of the design engineer to properly design/specify the foundations and other structural elements based on the requirements of the structure and considering the information presented in this report.

CORROSION: The water-soluble sulfate content and water-soluble chloride of a selected soil sample from the site was determined in accordance with California Test Method 417 and California Test Method 422, respectively. The pH and resistivity were determined in accordance with California Test Method 643. Test results are presented in Appendix B.

It should be understood Christian Wheeler Engineering does not practice corrosion engineering. If a corrosivity analysis is considered necessary, we recommend that the client retain an engineering firm that specializes in this field to consult with them on this matter. The results of our corrosion testing should only be used as a guideline to determine if additional testing and analysis is necessary.

SEISMIC DESIGN FACTORS

The seismic design factors applicable to the subject site are provided below. The seismic design factors were determined in accordance with the 2019 California Building Code. The site coefficients and adjusted

maximum considered earthquake spectral response acceleration parameters are presented in the following Table I.

TABLE I: SEISMIC DESIGN FACTORS

Site Coordinates: Latitude Longitude	32.853° -116.895°
Site Class	B
Site Coefficient F_a	0.9
Site Coefficient F_v	0.8
Spectral Response Acceleration at Short Periods S_s	0.773 g
Spectral Response Acceleration at 1 Second Period S_1	0.284 g
$S_{MS}=F_aS_s$	0.696 g
$S_{M1}=F_vS_1$	0.227 g
$S_{DS}=2/3*S_{MS}$	0.464 g
$S_{D1}=2/3*S_{M1}$	0.151 g

Probable ground shaking levels at the site could range from slight to moderate, depending on such factors as the magnitude of the seismic event and the distance to the epicenter. It is likely that the site will experience the effects of at least one moderate to large earthquake during the life of the proposed improvements.

EARTH RETAINING WALLS

FOUNDATIONS: Foundations for any proposed retaining walls should be constructed in accordance with the foundation recommendations presented previously in this report.

PASSIVE PRESSURE: The passive pressure for the anticipated foundation soils may be considered to be 400 pounds per square foot per foot of depth. The upper foot of embedment should be neglected when calculating passive pressures, unless the foundation abuts a hard surface such as a concrete slab. The passive pressure may be increased by one-third for seismic loading. The coefficient of friction for concrete to soil may be assumed to be 0.40 for the resistance to lateral movement. When combining frictional and passive resistance, the friction should be reduced by one-third.

ACTIVE PRESSURE: The active soil pressure for the design of "unrestrained" and "restrained" earth retaining structures with level backfill may be assumed to be equivalent to the pressure of a fluid weighing 40 and 61 pounds per cubic foot, respectively. These pressures do not consider any other surcharge. If any are anticipated, this office should be contacted for the necessary increase in soil pressure. These values are based on a drained backfill condition.

Seismic lateral earth pressures may be assumed to equal an inverted triangle starting at the bottom of the wall with the maximum pressure equal to 4.7H pounds per square foot (where H = wall height in feet) occurring at the top of the wall.

WATERPROOFING AND WALL DRAINAGE SYSTEMS: The need for waterproofing should be evaluated by others. If required, the project architect should provide (or coordinate) waterproofing details for the retaining walls. The design values presented above are based on a drained backfill condition and do not consider hydrostatic pressures. The retaining wall designer should provide a detail for a wall drainage system. Typical retaining wall drain system details will be presented in Plate No. 2 for informational purposes. Additionally, outlet points for the retaining wall drain system should be coordinated with the project civil engineer.

BACKFILL: Retaining wall backfill soils should be compacted to at least 90 percent relative compaction. Expansive or clayey soils should not be used for backfill material. The wall should not be backfilled until the masonry has reached an adequate strength.

LIMITATIONS

REVIEW, OBSERVATION AND TESTING

The recommendations presented in this report are contingent upon our review of final plans and specifications. Such plans and specifications should be made available to the geotechnical engineer and engineering geologist so that they may review and verify their compliance with this report and with the California Building Code.

It is recommended that Christian Wheeler Engineering be retained to provide continuous soil engineering services during the earthwork operations. This is to verify compliance with the design concepts, specifications or recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

UNIFORMITY OF CONDITIONS

The recommendations and opinions expressed in this report reflect our best estimate of the project requirements based on an evaluation of the subsurface soil conditions encountered at the subsurface exploration locations and on the assumption that the soil conditions do not deviate appreciably from those

encountered. It should be recognized that the performance of the foundations and/or cut and fill slopes may be influenced by undisclosed or unforeseen variations in the soil conditions that may occur in the intermediate and unexplored areas. Any unusual conditions not covered in this report that may be encountered during site development should be brought to the attention of the geotechnical engineer so that he may make modifications if necessary.

CHANGE IN SCOPE

This office should be advised of any changes in the project scope or proposed site grading so that we may determine if the recommendations contained herein are appropriate. This should be verified in writing or modified by a written addendum.

TIME LIMITATIONS

The findings of this report are valid as of this date. Changes in the condition of a property can, however, occur with the passage of time, whether they be due to natural processes or the work of man on this or adjacent properties. In addition, changes in the Standards-of-Practice and/or Government Codes may occur. Due to such changes, the findings of this report may be invalidated wholly or in part by changes beyond our control. Therefore, this report should not be relied upon after a period of two years without a review by us verifying the suitability of the conclusions and recommendations.

PROFESSIONAL STANDARD

In the performance of our professional services, we comply with that level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions and in the same locality. The client recognizes that subsurface conditions may vary from those encountered at the locations where our borings, surveys, and explorations are made, and that our data, interpretations, and recommendations be based solely on the information obtained by us. We will be responsible for those data, interpretations, and recommendations, but shall not be responsible for the interpretations by others of the information developed. Our services consist of professional consultation and observation only, and no warranty of any kind whatsoever, express or implied, is made or intended in connection with the work performed or to be performed by us, or by our proposal for consulting or other services, or by our furnishing of oral or written reports or findings.

CLIENT'S RESPONSIBILITY

It is the responsibility of the Client, or his representatives, to ensure that the information and recommendations contained herein are brought to the attention of the structural engineer and architect for the project and incorporated into the project's plans and specifications. It is further their responsibility to take the necessary measures to ensure that the contractor and his subcontractors carry out such recommendations during construction.

FIELD EXPLORATIONS

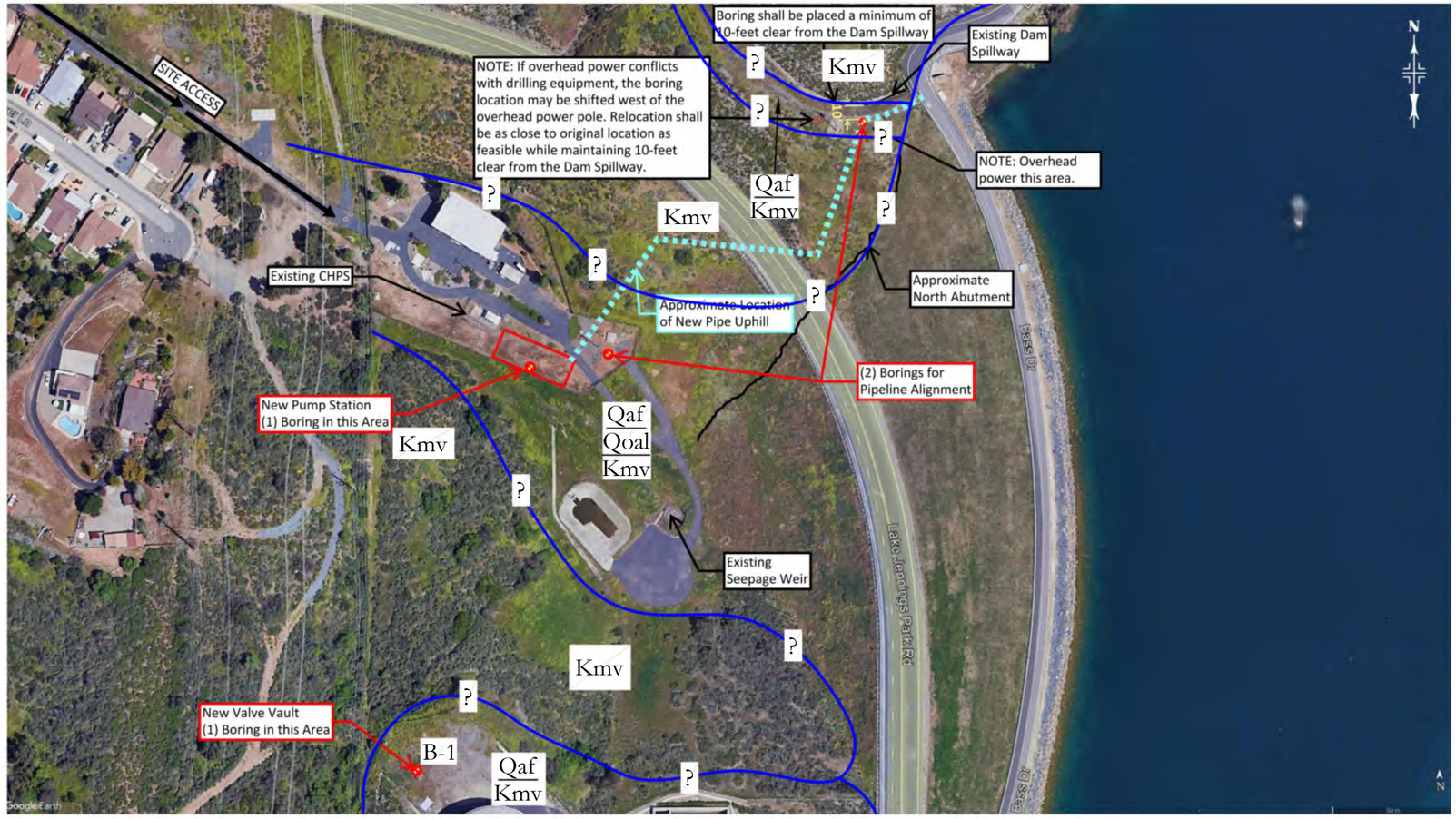
One subsurface exploration was excavated on February 16, 2022 at the location indicated on the Site Plan and Geotechnical Maps included herewith as Plate No. 1. This exploration consisted of a boring drilled utilizing a truck mounted drill rig (IR A-300). The fieldwork was conducted under the observation and direction of our engineering geology personnel.

The exploration was carefully logged when made. The logs are presented on Appendix A. The soils are described in accordance with the Unified Soils Classification. In addition, a verbal textural description, the wet color, the apparent moisture, and the density or consistency is provided. The density of granular soils is given as very loose, loose, medium dense, dense or very dense. The consistency of silts or clays is given as either very soft, soft, medium stiff, stiff, very stiff, or hard.

Relatively undisturbed drive samples were collected using a modified California sampler. The sampler, with an external diameter of 3.0 inches, is lined with 1-inch long, thin, brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a 140-pound hammer falling 30 inches in general accordance with ASTM D 3550-84. The driving weight is permitted to fall freely. The number of blows per foot of driving, or as indicated, are presented on the boring logs as an index to the relative resistance of the sampled materials. The samples were removed from the sample barrel in the brass rings, and sealed. Bulk and chunk samples of the earth materials encountered were also collected. Samples were transported to our laboratory for testing.

LABORATORY TESTING

Laboratory tests were performed in accordance with the generally accepted American Society for Testing and Materials (ASTM) test methods or suggested procedures. A brief description of the tests performed and the subsequent results are presented in Appendix B.



W+E

Not to Scale

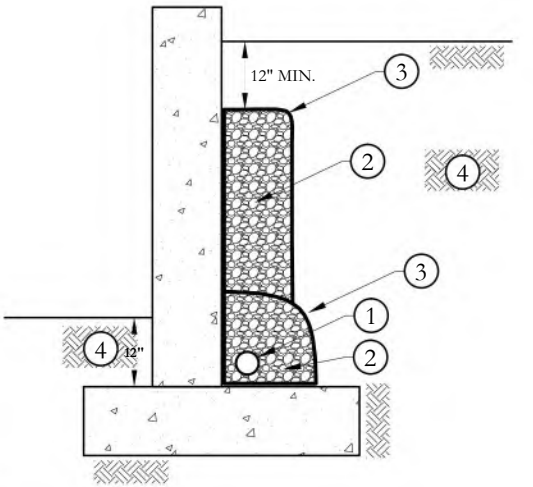
CWE LEGEND	
B-1	Approximate Boring Location
Qaf / Qoal / Kmv	Artificial Fill over Older Alluvium over Metavolcanic Rock
Qaf / Kmv	Artificial Fill over Metavolcanic Rock
Kmv	Metavolcanic Rock
? ?	Geologic Contact (Queried where Inferred)

SITE PLAN AND GEOTECHNICAL MAP

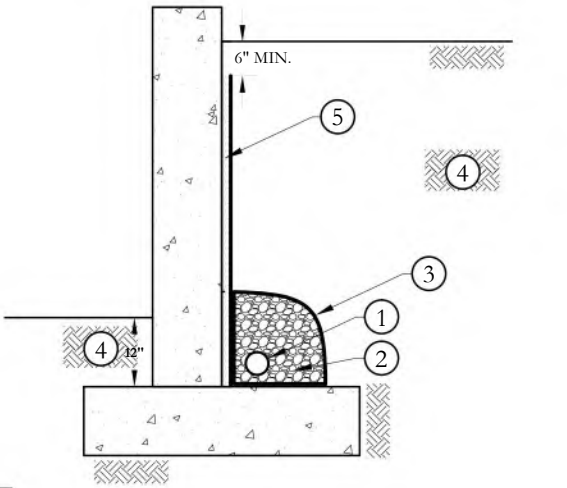
PROPOSED NEW VALVE VAULT, HELIX WATER DISTRICT RM LEVY TREATMENT PLANT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.02
BY:	SD	PLATE NO.:	1

CHRISTIAN WHEELER ENGINEERING



1 DETAIL



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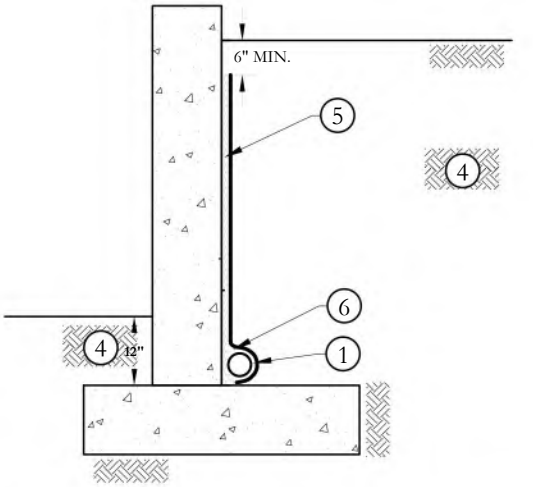

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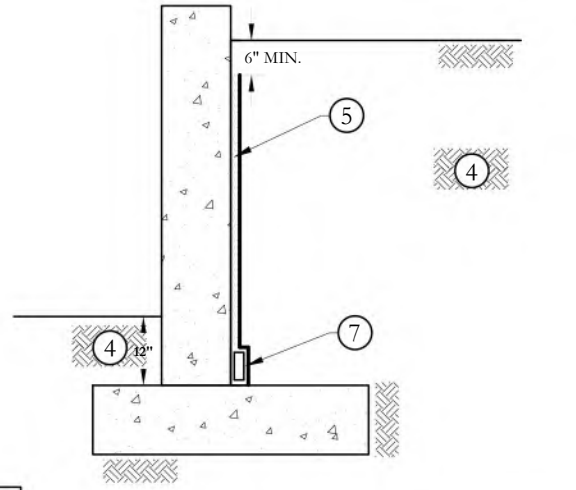

4 DETAIL

NOTES AND DETAILS

GENERAL NOTES:

1) THE NEED FOR WATERPROOFING SHOULD BE EVALUATED BY OTHERS.
2) WATERPROOFING TO BE DESIGNED BY OTHERS (CWE CAN PROVIDE A DESIGN IF REQUESTED).
3) EXTEND DRAIN TO SUITABLE DISCHARGE POINT PER CIVIL ENGINEER.
4) DO NOT CONNECT SURFACE DRAINS TO SUBDRAIN SYSTEM.

DETAILS:

1. 4-INCH PERFORATED PVC PIPE ON TOP OF FOOTING, HOLES POSITIONED DOWNWARD (SDR 35, SCHEDULE 40, OR EQUIVALENT).
2. ¾ INCH OPEN-GRADED CRUSHED AGGREGATE.
3. GEOFARBRIC WRAPPED COMPLETELY AROUND ROCK.
4. PROPERLY COMPACTED BACKFILL SOIL.
5. WALL DRAINAGE PANELS (MIRADRAIN OR EQUIVALENT) PLACED PER MANUFACTURER'S REC'S.
6. UNDERLAY SUBDRAIN WITH AND CUT FABRIC BACK FROM DRAINAGE PANELS AND WRAP FABRIC AROUND PIPE.
7. COLLECTION DRAIN (TOTAL DRAIN OR EQUIVALENT) LOCATED AT BASE OF WALL DRAINAGE PANEL PER MANUFACTURER'S RECOMMENDATIONS.

CANTILEVER RETAINING WALL DRAINAGE SYSTEMS

PROPOSED NEW VALVE VAULT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.02
BY:	SD	PLATE NO.:	2

CHRISTIAN WHEELER
ENGINEERING

Appendix A

Subsurface Explorations

LOG OF TEST BORING B-1

Date Logged:	2/16/22	Equipment:	IR A-300
Logged By:	ACC	Auger Type:	8 inch hollow stem
Existing Elevation:	Unknown	Drive Type:	140lbs/30 inches
Proposed Elevation:	Unknown	Depth to Water:	Unknown

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk
SPT	Standard Penetration Test	DR	Drive Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential	SD	Sample Density

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Light reddish-brown, damp, very dense, very fine- to coarse-grained, SILTY SAND with trace gravel, micaceous, metavolcanic derived.	61	Cal		6.4	120.2		SA MD SO4 Chl Res DS
5					63	Cal					DS
			SM	**Weathered Metavolcanic Rock (Kmv):** Light reddish-brown, damp, very dense, very fine- to coarse-grained, SILTY SAND.	50/6"	Cal		7.0	120.7		
10					50/6"	Cal					DS
15					50/2"	Cal					
				Terminated at 18.5 feet. No groundwater or seepage encountered.							
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁹⁹ Apparent Seepage
- * No Sample Recovery
- ** Non-Representative Blow Count (rocks present)

PROPOSED NEW VALVE VAULT, HWD RM LEVY TREATMENT PLANT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

DATE:	APRIL 2022	JOB NO.:	2210500.02
BY:	SD	APPENDIX:	A-1

CHRISTIAN WHEELER ENGINEERING

Appendix B

Laboratory Test Results

Laboratory tests were performed in accordance with the generally accepted American Society for Testing and Materials (ASTM) test methods or suggested procedures. Brief descriptions of the tests performed are presented below:

a) **CLASSIFICATION:** Field classifications were verified in the laboratory by visual examination. The final soil classifications are in accordance with the Unified Soil Classification System and are presented on the exploration logs in Appendix A.

b) **MOISTURE-DENSITY: MOISTURE-DENSITY:** In-place moisture contents and dry densities were determined for selected soil samples in accordance with ATM D 2937. The results are summarized in the boring logs presented in Appendix A.

c) **MAXIMUM DRY DENSITY AND OPTIUM MOISTURE CONTENT TEST:** The maximum dry density and optimum moisture content of selected soil samples were determined in the laboratory in accordance with ASTM D 1557, Method A.

d) **DIRECT SHEAR:** Direct shear tests were performed on selected samples of the on-site soils in accordance with ASTM D 3080.

e) **GRAIN SIZE DISTRIBUTION:** The grain size distribution of a selected soil sample was determined in accordance with ASTM C136 and/or ASTM D422.

f) **SOLUBLE SULFATES:** The soluble sulfate content of a selected soil sample was determined in accordance with California Test Method 417.

g) **SOLUBLE CHLORIDE CONTENT:** The soluble chloride content of a selected sample was determined in accordance with California Test Methods 422.

h) **pH and RESISTIVITY:** The pH and Resistivity of a selected sample was determined in accordance with California Test Methods 643.

LABORATORY TEST RESULTS

PROPOSED NEW VALVE VAULT

HELIX WATER DISTRICT RM LEVY TREATMENT PLANT

9550 LAKE JENNINGS PARK ROAD

LAKESIDE, CALIFORNIA

MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT (ASTM D1557)

Sample Location	**Boring B-1 @ 0-4'**
Sample Description	Brown Silty Sand (SM)
Maximum Density	132.7 pcf
Optimum Moisture	7.7 %

DIRECT SHEAR (ASTM D3080)

Sample Location	**Boring B-1 @ 0-4'**	**Boring B-1 @ 5½'**	**Boring B-1 @ 5½'**
Sample Type	Remolded to 90%	Undisturbed	Undisturbed
Friction Angle	32°	38°	40°
Cohesion	200 psf	500 psf	400 psf

GRAIN SIZE DISTRIBUTION (ASTM D422)

Sample Location	**Boring B-1 @ 0-4'**
Sieve Size	*Percent Passing*
1½"	100
1"	98
¾"	95
½"	92
⅜"	90
#4	84
#8	77
#16	70
#30	61
#50	54
#100	45
#200	29

CORROSIVITY TESTS

Sample No.	CALTEST 643		CALTEST 417	CALTEST 422
	Resistivity (ohm-cm)	pH	Sulfate Content (% SO_4)	Chloride Content (%)
B-1 @ 0-4'	2,700	8	<0.003	0,002

CORROSIVITY STANDARDS

Building Code Requirements for Structural Concrete (ACI 318-11)
Table 4.2.1 Exposure Categories and Classes & Table 4.3.1 Requirements for Concrete by Exposure Class

Severity	Water-Soluble Sulfate in Soil Percentage by Weight	Cementitious Materials- Types (ASTM C150)	Maximum Water-cementitious Material Ratio (w/cm)	Minimum F'c, psi
Not Applicable	$SO_4 < 0.10$	No Type Restriction	N/A	2500
Moderate	$0.10 \leq SO_4 < 0.20$	II	0.50	4000
Severe	$0.20 \leq SO_4 \leq 2.00$	V	0.45	4500
Very Severe	SO4 > 2.00	V+ Pozzolan or Slag	0.45	4500

* See ACI 318-11 for exceptions and additional requirements

California Department of Transportation (DOT), Division of Engineering Services
Material Engineering and Testing, Corrosion and Structural Concrete, Field Investigation Branch
Corrosion Guidelines, Version 2.1, January 2015

Corrosive Environment	Resistivity (ohm-cm)	pH	Soluble Sulfate (%)	Chloride (%)
	<1000 *	**<5.5**	**>0.2**	**>0.05**

*Soil and water that have a minimum resistivity equal to or less than, 1,000 ohm-cm are required to be tested by a certified lab for chlorides and sulfates per CT417 and CT422.

For structural elements, the DOT considers a site to be corrosive if one or more of the conditions (pH, sulfate concentration, or chloride concentation) exists for the soil and/or water samples taken at the site.

PROPOSED NEW VALVE VAULT
9550 LAKE JENNINGS PARK ROAD, LAKESIDE,CALIFORNIA

BY: DBA	DATE: April 2022	REPORT NO.:2210500.02	Plate No. B-3

Appendix C

References

REFERENCES

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Appendix D

Recommended Grading Specifications – General Provisions

RECOMMENDED GRADING SPECIFICATIONS - GENERAL PROVISIONS

PROPOSED NEW VALVE VAULT
HELIX WATER DISTRICT RM LEVY TREATMENT PLANT
9550 LAKE JENNINGS PARK ROAD
LAKESIDE, CALIFORNIA

GENERAL INTENT

The intent of these specifications is to establish procedures for clearing, compacting natural ground, preparing areas to be filled, and placing and compacting fill soils to the lines and grades shown on the accepted plans. The recommendations contained in the preliminary geotechnical investigation report and/or the attached Special Provisions are a part of the Recommended Grading Specifications and shall supersede the provisions contained hereinafter in the case of conflict. These specifications shall only be used in conjunction with the geotechnical report for which they are a part. No deviation from these specifications will be allowed, except where specified in the geotechnical report or in other written communication signed by the Geotechnical Engineer.

OBSERVATION AND TESTING

Christian Wheeler Engineering shall be retained as the Geotechnical Engineer to observe and test the earthwork in accordance with these specifications. It will be necessary that the Geotechnical Engineer or his representative provide adequate observation so that he may provide his opinion as to whether or not the work was accomplished as specified. It shall be the responsibility of the contractor to assist the Geotechnical Engineer and to keep him appraised of work schedules, changes and new information and data so that he may provide these opinions. In the event that any unusual conditions not covered by the special provisions or preliminary geotechnical report are encountered during the grading operations, the Geotechnical Engineer shall be contacted for further recommendations.

If, in the opinion of the Geotechnical Engineer, substandard conditions are encountered, such as questionable or unsuitable soil, unacceptable moisture content, inadequate compaction, adverse weather, etc., construction should be stopped until the conditions are remedied or corrected or he shall recommend rejection of this work.

Tests used to determine the degree of compaction should be performed in accordance with the following American Society for Testing and Materials test methods:

Maximum Density & Optimum Moisture Content - ASTM D1557
Density of Soil In-Place - ASTM D1556 or ASTM D2922

All densities shall be expressed in terms of Relative Compaction as determined by the foregoing ASTM testing procedures.

PREPARATION OF AREAS TO RECEIVE FILL

All vegetation, brush and debris derived from clearing operations shall be removed, and legally disposed of. All areas disturbed by site grading should be left in a neat and finished appearance, free from unsightly debris.

After clearing or benching the natural ground, the areas to be filled shall be scarified to a depth of 6 inches, brought to the proper moisture content, compacted and tested for the specified minimum degree of compaction. All loose soils in excess of 6 inches thick should be removed to firm natural ground which is defined as natural soil which possesses an in-situ density of at least 90 percent of its maximum dry density.

When the slope of the natural ground receiving fill exceeds 20 percent (5 horizontal units to 1 vertical unit), the original ground shall be stepped or benched. Benches shall be cut to a firm competent formational soil. The lower bench shall be at least 10 feet wide or 1-1/2 times the equipment width, whichever is greater, and shall be sloped back into the hillside at a gradient of not less than two (2) percent. All other benches should be at least 6 feet wide. The horizontal portion of each bench shall be compacted prior to receiving fill as specified herein for compacted natural ground. Ground slopes flatter than 20 percent shall be benched when considered necessary by the Geotechnical Engineer.

Any abandoned buried structures encountered during grading operations must be totally removed. All underground utilities to be abandoned beneath any proposed structure should be removed from within 10 feet of the structure and properly capped off. The resulting depressions from the above-described procedure should be backfilled with acceptable soil that is compacted to the requirements of the Geotechnical Engineer. This includes, but is not limited to, septic tanks, fuel tanks, sewer lines or leach lines, storm drains and water lines. Any buried structures or utilities not to be abandoned should be brought to the attention of the Geotechnical Engineer so that he may determine if any special recommendation will be necessary.

All water wells which will be abandoned should be backfilled and capped in accordance to the requirements set forth by the Geotechnical Engineer. The top of the cap should be at least 4 feet below finish grade or 3 feet below the bottom of footing whichever is greater. The type of cap will depend on the diameter of the well and should be determined by the Geotechnical Engineer and/or a qualified Structural Engineer.

FILL MATERIAL

Materials to be placed in the fill shall be approved by the Geotechnical Engineer and shall be free of vegetable matter and other deleterious substances. Granular soil shall contain sufficient fine material to fill the voids. The definition and disposition of oversized rocks and expansive or detrimental soils are covered in the geotechnical report or Special Provisions. Expansive soils, soils of poor gradation, or soils with low strength characteristics may be thoroughly mixed with other soils to provide satisfactory fill material, but only with the explicit consent of the Geotechnical Engineer. Any import material shall be approved by the Geotechnical Engineer before being brought to the site.

PLACING AND COMPACTION OF FILL

Approved fill material shall be placed in areas prepared to receive fill in layers not to exceed 6 inches in compacted thickness. Each layer shall have a uniform moisture content in the range that will allow the compaction effort to be efficiently applied to achieve the specified degree of compaction. Each layer shall be uniformly compacted to the specified minimum degree of compaction with equipment of adequate size to economically compact the layer. Compaction equipment should either be specifically designed for soil compaction or of proven reliability. The minimum degree of compaction to be achieved is specified in either the Special Provisions or the recommendations contained in the preliminary geotechnical investigation report. When the structural fill material includes rocks, no rocks will be allowed to nest and all voids must be carefully filled with soil such that the minimum degree of compaction recommended in the Special Provisions is achieved. The maximum size and spacing of rock permitted in structural fills and in non-structural fills is discussed in the geotechnical report, when applicable.

Field observation and compaction tests to estimate the degree of compaction of the fill will be taken by the Geotechnical Engineer or his representative. The location and frequency of the tests shall be at the Geotechnical Engineer's discretion. When the compaction test indicates that a particular layer is at less than the required degree of compaction, the layer shall be reworked to the satisfaction of the Geotechnical Engineer and until the desired relative compaction has been obtained.

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction by sheepsfoot roller shall be at vertical intervals of not greater than four feet. In addition, fill slopes at a ratio of two horizontal to one vertical or flatter, should be trackrolled. Steeper fill slopes shall be over-built and cut-back to finish contours after the slope has been constructed. Slope compaction operations shall result in all fill material six or more inches inward from the finished face of the slope having a relative compaction of at least 90 percent of maximum dry density or the degree of compaction specified in the Special Provisions section of this specification. The compaction operation on the slopes shall be continued until the Geotechnical Engineer is of the opinion that the slopes will be surficially stable.

Density tests in the slopes will be made by the Geotechnical Engineer during construction of the slopes to determine if the required compaction is being achieved. Where failing tests occur or other field problems arise, the Contractor will be notified that day of such conditions by written communication from the Geotechnical Engineer or his representative in the form of a daily field report.

If the method of achieving the required slope compaction selected by the Contractor fails to produce the necessary results, the Contractor shall rework or rebuild such slopes until the required degree of compaction is obtained, at no cost to the Owner or Geotechnical Engineer.

CUT SLOPES

The Engineering Geologist shall inspect cut slopes excavated in rock or lithified formational material during the grading operations at intervals determined at his discretion. If any conditions not anticipated in the preliminary report such as perched water, seepage, lenticular or confined strata of a potentially adverse nature, unfavorably inclined bedding, joints or fault planes are encountered during grading, these conditions shall be analyzed by the Engineering Geologist and Geotechnical Engineer to determine if mitigating measures are necessary.

Unless otherwise specified in the geotechnical report, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of the controlling governmental agency.

ENGINEERING OBSERVATION

Field observation by the Geotechnical Engineer or his representative shall be made during the filling and compaction operations so that he can express his opinion regarding the conformance of the grading with acceptable standards of practice. Neither the presence of the Geotechnical Engineer or his representative or

the observation and testing shall release the Grading Contractor from his duty to compact all fill material to the specified degree of compaction.

SEASON LIMITS

Fill shall not be placed during unfavorable weather conditions. When work is interrupted by heavy rain, filling operations shall not be resumed until the proper moisture content and density of the fill materials can be achieved. Damaged site conditions resulting from weather or acts of God shall be repaired before acceptance of work.

RECOMMENDED GRADING SPECIFICATIONS - SPECIAL PROVISIONS

RELATIVE COMPACTION: The minimum degree of compaction to be obtained in compacted natural ground, compacted fill, and compacted backfill shall be at least 90 percent. For street and parking lot subgrade, the upper six inches should be compacted to at least 95 percent relative compaction.

EXPANSIVE SOILS: Detrimentally expansive soil is defined as clayey soil which has an expansion index of 50 or greater when tested in accordance with the Uniform Building Code Standard 29-2.

OVERSIZED MATERIAL: Oversized fill material is generally defined herein as rocks or lumps of soil over 6 inches in diameter. Oversized materials should not be placed in fill unless recommendations of placement of such material are provided by the Geotechnical Engineer. At least 40 percent of the fill soils shall pass through a No. 4 U.S. Standard Sieve.

TRANSITION LOTS: Where transitions between cut and fill occur within the proposed building pad, the cut portion should be undercut a minimum of one foot below the base of the proposed footings and recompacted as structural backfill. In certain cases that would be addressed in the geotechnical report, special footing reinforcement or a combination of special footing reinforcement and undercutting may be required.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Diego County Area, California

August 25, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

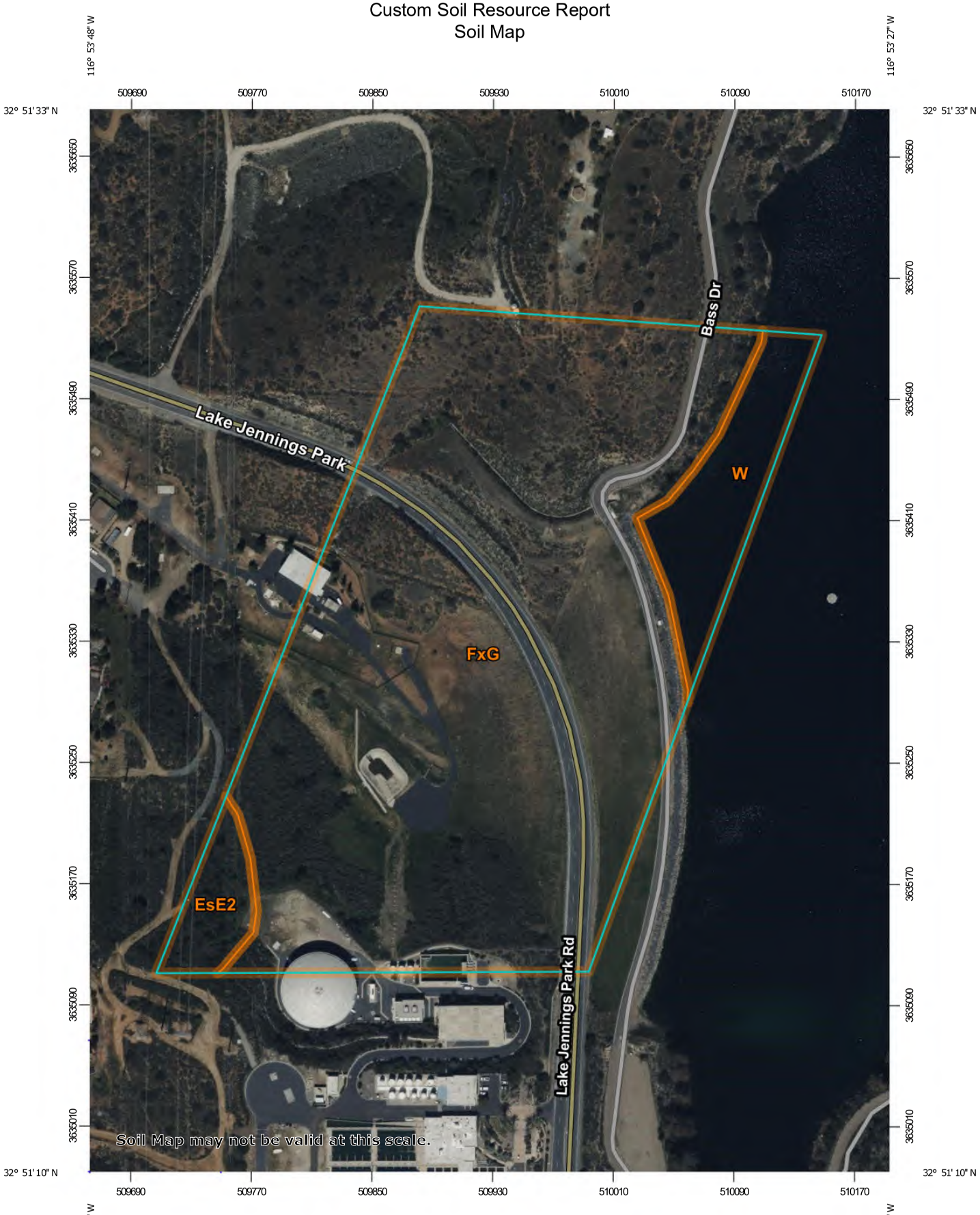
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,420 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 16, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 24, 2022—Apr 29, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EsE2	Escondido very fine sandy loam, 15 to 30 percent slopes , eroded	1.0	3.5%
FxG	Friant rocky fine sandy loam, 30 to 70 percent slopes	26.4	88.2%
W	Water	2.5	8.4%
Totals for Area of Interest		**29.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Diego County Area, California

EsE2—Escondido very fine sandy loam, 15 to 30 percent slopes , eroded

Map Unit Setting

National map unit symbol: hbbm
Elevation: 400 to 2,800 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 260 to 310 days
Farmland classification: Not prime farmland

Map Unit Composition

Escondido and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Escondido

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metamorphic rock and sandstone

Typical profile

H1 - 0 to 6 inches: very fine sandy loam
H2 - 6 to 29 inches: silt loam
H3 - 29 to 33 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Friant

Percent of map unit: 10 percent

Hydric soil rating: No

Fallbrook

Percent of map unit: 3 percent
Hydric soil rating: No

Vista

Percent of map unit: 2 percent
Hydric soil rating: No

FxG—Friant rocky fine sandy loam, 30 to 70 percent slopes

Map Unit Setting

National map unit symbol: hbc5
Elevation: 500 to 5,800 feet
Mean annual precipitation: 8 to 25 inches
Mean annual air temperature: 45 to 64 degrees F
Frost-free period: 110 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Friant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Friant

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 12 inches: sandy loam
H3 - 12 to 16 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 70 percent
Depth to restrictive feature: 6 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R019XD060CA - SHALLOW LOAMY (1975)
Hydric soil rating: No

Minor Components

Exchequer

Percent of map unit: 10 percent
Hydric soil rating: No

Cieneba

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

Escondido

Percent of map unit: 1 percent
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Appendix E. Asbestos and Lead-Based Paint Survey Report

Converse Consultants

75 Years of Dedication in Geotechnical Engineering & Consulting, Environmental & Groundwater Science, Materials Testing & Inspection Services

[illegible]

[illegible]

[illegible]

[illegible]

300 [illegible]

[illegible]

[illegible] **REVISED REPORT – ASBESTOS AND LEAD-BASED PAINT AND OTHER HAZARDOUS MATERIALS SURVEY**
Chet Harritt Pump Station
[illegible]

Mr. [illegible]

[illegible] *Asbestos, Lead-Based Paint (LBP) & Hazardous Materials Survey* [illegible]

[illegible]

[illegible] *Survey* [illegible]

Name	Asbestos Certification Number	Task Performed	Contact Number
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Asbestos

[illegible]

[illegible] 600/R[illegible]3/[illegible]6 [illegible] *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials"* [illegible]

[illegible]

Summary of Bulk Asbestos Sample Results

Sample No.	Building Material	Percent Asbestos	Comments
Chet Harritt Pump Station			
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Labo rato ry analytical epo rts, chain-of-custo dies, an d sample location maps a re attache d to this lette r epo rt.

LBPs and Lead-Containing Materials

Conve rse utilize d a po rtable Viken Pb 200i X- ay fluo rescence (X RF) device to collect rea dings of painte d components. The su rvey was complete d by the following Conve rse employee:

Name	CDPH Lead Certification Number	Contact Number
R d Stansfie d	CDPH L RC 4364	(71 4) 333- 222

Components su rveye d inclu de d:

- Canopy
- Columns
- Pump units, associate d pipes, valves, an d components
- Well an d manhole cove rs
- Elect ical panels an d con duits
- Inte rio r an d exte rio r walls
- D r components
- Vents louve rs

Base d on the X RF rea dings, a lea d concent ation g reate r than the Califo rnia Co de of Regulations (CC R), Title 17, Section 35043 definition fo r LBP of 1 0 millig ram pe r squa re centimete r (mg /cm 2) was detecte d in the components liste d below:

Table 2 – Summary of Positive XRF Readings

Building Component	Paint Color	Lead Conc. (mg/cm²)	Comments
Chet Harritt Pump Station			
Metal Well Cove r	Blue	7.5	Locate d at the Pump Encl su re wes of pumps. The pain is intact.
Metal Pump d	Blue	6 3	Locate d at the Pump Encl su re on th ree (3) of the pump moto r units. The paint is intact
Metal Con duit	Blue	1	Loc te d at the Pump Encl su re wes of pumps. The pain is intact.

The remaining exte rio r an d inte rio r painte d components ha d lea d concent ation less than 1 mg /cm 2.

A copy of the X RF log is attache d to this epo rt.

Other Hazardous Materials

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Table 3 – Summary of PBC Readings

Building Component	PBC Conc. (µg/Kg)	Comments
Chet Harritt Pump Station		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

Conclusions and Recommendations

[illegible]

[illegible] R[illegible]32 [illegible]

[illegible] 0 [illegible] / [illegible] 2 [illegible]

Closure

[illegible]

[illegible] M [illegible]

[illegible] *Application of Authorization to Use* [illegible]

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

Application for Authorization to Use

To: [illegible]

Re: [illegible]

Dear Sir/Madam,

We hereby apply for authorization to use the Converse Consultants' report dated [illegible] prepared for [illegible] in connection with [illegible].

We understand that the report is prepared for the sole use of the Client and that no other party may rely on the report or any portion thereof without the express written authorization of Converse Consultants. Converse Consultants will not be responsible to any other party for any use of the report or any portion thereof without the express written authorization of Converse Consultants.

We understand that Converse Consultants will not be responsible for any unauthorized alterations made to the report or any portion thereof.

We understand that Converse Consultants will not be responsible for any unauthorized use of the report or any portion thereof.

We understand that Converse Consultants will not be responsible for any unauthorized distribution of the report or any portion thereof.

We understand that Converse Consultants will not be responsible for any unauthorized publication of the report or any portion thereof.

We understand that Converse Consultants will not be responsible for any unauthorized reproduction of the report or any portion thereof.

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We understand that Converse Consultants will not be responsible for any unauthorized making available to the public of the report or any portion thereof.

We understand that Converse Consultants will not be responsible for any unauthorized exhibition of the report or any portion thereof.

Applicant [illegible] *Applicant* [illegible]

Yours faithfully,

[illegible]: _____

[illegible]: _____

[illegible]: _____

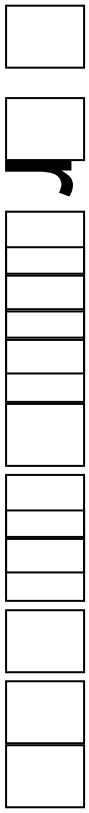
[illegible]: _____

[illegible]: _____

[illegible]: _____

Date: _____

Certifications



State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Rodney Dean Stansfield
Name

Certification No. **97-2309**

Expires on **12/08/21**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

California Department of PublicHealth

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
	Lead Project Monitor	LRC-00004396	12/17/2021
	Lead Inspector/Assessor	LRC-00004397	12/17/2021

Rodney Stansfield

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.

STATE OF CALIFORNIA Gavin Newsom, Governor

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Certification & Training Unit
1750 Howe Avenue, Suite 460
Sacramento, CA 95825
(916) 574-2993 Office http://www.dir.ca.gov/dosh/asbestos.html acru@dir.ca.gov

307281136C **72** **79**

Converse Consultants
George John Paler
717 S. Myrtle Avenue
Monrovia CA 91016

October 06, 2021

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

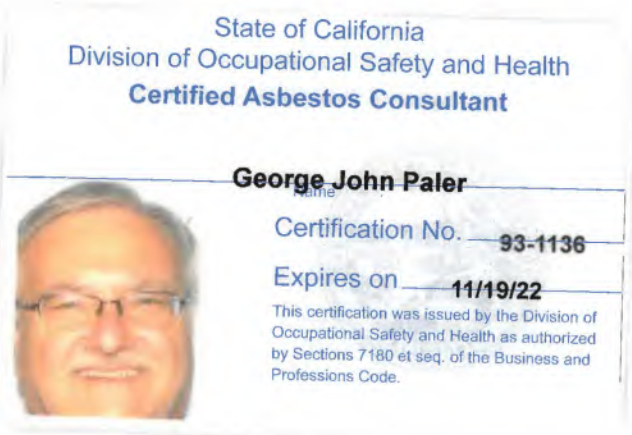
Please notify our office via U.S. Postal Service or other carrier of any changes in your mailing or work address within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Name **George John Paler**

Certification No. **93-1136**

Expires on **11/19/22**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Renewal – Card Attached (Revised 06/2020)

California Department of PublicHealth

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
	Lead Inspector/Assessor	LRC-00000258	6/26/2022
	Lead Project Designer	LRC-00000259	6/26/2022
	Lead Project Monitor	LRC-00000257	6/26/2022

George Paler

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STATE OF CALIFORNIA Gavin Newsom, Governor

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
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(916) 574-2993 Office http://www.dir.ca.gov/dosh/asbestos.html acru@dir.ca.gov

612162093C **138**

Converse Consultants
Norman S Eke
717 S. Myrtle Avenue
Monrovia CA 91016

December 10, 2020

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please notify our office via U.S. Postal Service or other carrier of any changes in your mailing or work address within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

Renewal – Card Attached (Revised 06/2020)

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101384-0

LA Testing-Huntington Beach

Huntington Beach, CA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2021-07-01 through 2022-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

LA Testing-Huntington Beach
5431 Industrial Drive
Huntington Beach, CA 92649
Mr. Christopher Miranda
Phone: 714-828-4999
Email: cmiranda@latesting.com
http://www.latesting.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 101384-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

LA Testing

Huntington Beach, CA

5431 Industrial Drive

Huntington Beach, CA 92649 USA

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1406**

Expiration Date: **1/31/2022**

Effective Date: **2/1/2020**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

LA Testing
Huntington Beach, CA
5431 Industrial Drive
Huntington Beach, CA 92649 USA
Phone: 7148284999

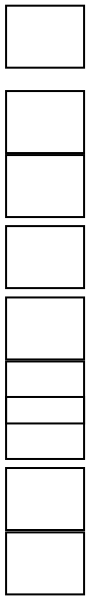
Certificate No. 1406
Expiration Date 1/31/2022

Field of Testing: 102 - Inorganic Chemistry of Drinking Water			
102.020	001	Turbidity	EPA 180.1
Field of Testing: 109 - Metals and Trace Elements in Non-Potable Water			
109.625	013	Lead	EPA 200.8 (1994 Rev. 5.4)
Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste			
114.010	001	Antimony	EPA 6010 B
114.010	002	Arsenic	EPA 6010 B
114.010	003	Barium	EPA 6010 B
114.010	004	Beryllium	EPA 6010 B
114.010	005	Cadmium	EPA 6010 B
114.010	006	Chromium	EPA 6010 B
114.010	007	Cobalt	EPA 6010 B
114.010	008	Copper	EPA 6010 B
114.010	009	Lead	EPA 6010 B
114.010	010	Molybdenum	EPA 6010 B
114.010	011	Nickel	EPA 6010 B
114.010	012	Selenium	EPA 6010 B
114.010	013	Silver	EPA 6010 B
114.010	014	Thallium	EPA 6010 B
114.010	015	Vanadium	EPA 6010 B
114.010	016	Zinc	EPA 6010 B
114.130	001	Lead	EPA 7420
114.140	001	Mercury	EPA 7470 A
114.141	001	Mercury	EPA 7471 A
114.240	001	Corrosivity - pH Determination	EPA 9040 B
114.241	001	Corrosivity - pH Determination	EPA 9045 C
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.021	001	TCLP Inorganics	EPA 1311 (TCLP)
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.220	000	PCBs	EPA 8082
Field of Testing: 120 - Physical Properties of Hazardous Waste			
120.070	001	Corrosivity - pH Determination	EPA 9040 B

As of 2/1/2020 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

120.080	001	Corrosivity - pH Determination	EPA 9045 C
Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste			
121.010	001	Bulk Asbestos	EPA 600/M4-82-020

Asbestos



LA Testing

5431 Industrial Drive Huntington Beach, CA 92649

Tel/Fax: (714) 828-4999 / (714) 828-4944

http://www.LATesting.com / gardengrovelab@latesting.com

LA Testing Order:	332124669
Customer ID:	32CONV56
Customer PO:	214212601
Project ID:	

Attention:	George Paler	**Phone:**	(626) 930-1258
	Converse Consultants	**Fax:**	(626) 930-1212
	717 S Myrtle Avenue	**Received Date:**	10/21/2021 8:00 AM
	Monrovia, CA 91016	**Analysis Date:**	10/27/2021
		Collected Date:	10/20/2021
Project:	21-42-126-01		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
L-01 *332124669-0001*	Concrete Slab- Pump enclosure, sw	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-02 *332124669-0002*	Concrete Slab- Pump enclosure, north	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-03 *332124669-0003*	Concrete Slab- Pump enclosure, south	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-04 *332124669-0004*	Concrete Pipe Sleaves- Pump enclosure, east pipe	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-05 *332124669-0005*	Concrete Pipe Sleaves- Pump enclosure, center pipe	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-06 *332124669-0006*	Concrete Pipe Sleaves- Pump enclosure, west pipe	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-07 *332124669-0007*	Pipe Gasket- Pump enclosure, east pipe	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
L-08 *332124669-0008*	Pipe Gasket- Pump enclosure, center pipe	Black Fibrous Homogeneous	12% Synthetic	88% Non-fibrous (Other)	None Detected
L-09 *332124669-0009*	Pipe Gasket- Pump enclosure, center pipe	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
L-10 *332124669-0010*	Vibration Damper- Pump enclosure, west pipe	Brown/Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
L-11 *332124669-0011*	Brick Mortar- Electrical bldg, exterior, east	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-12 *332124669-0012*	Brick Mortar- Electrical bldg, exterior, north	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-13 *332124669-0013*	Brick Mortar- Electrical bldg, interior, west	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-14-Coating *332124669-0014*	Concrete Slab Floor- Electrical bldg, interior, east	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-14-Concrete *332124669-0014A*	Concrete Slab Floor- Electrical bldg, interior, east	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-15-Coating *332124669-0015*	Concrete Slab Floor- Electrical bldg, interior, center	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/27/2021 18:16:38

LA Testing

5431 Industrial Drive Huntington Beach, CA 92649

Tel/Fax: (714) 828-4999 / (714) 828-4944

http://www.LATesting.com / gardengrovelab@latesting.com

LA Testing Order:	332124669
Customer ID:	32CONV56
Customer PO:	214212601
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
L-15-Concrete *332124669-0015A*	Concrete Slab Floor-Electrical bldg, interior, center	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-16-Coating *332124669-0016*	Concrete Slab Floor-Electrical bldg, interior, sw	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-16-Concrete *332124669-0016A*	Concrete Slab Floor-Electrical bldg, interior, sw	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-17 *332124669-0017*	Concrete Roof-Electrical bldg, roof, se	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-18 *332124669-0018*	Concrete Roof-Electrical bldg, roof, sw	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
L-19 *332124669-0019*	Concrete Roof-Electrical bldg, roof, nw	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Brittany Quiring (22)

Michael Chapman, Laboratory Manager
or Other Approved Signatory

Initial report from: 10/27/2021 18:16:38

OrderID: 332124669

Asbestos Chain of Custody

LA Testing Order Number *(Lab Use Only)*:

#332124669

LA TESTING
520 MISSION STREET
S. PASADENA, CA 91030
PHONE: (323) 254-9960
FAX: (323) 254-9982

Company : Converse Consultants	**LA Testing-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 717 S. Myrtle Avenue	
City: Monrovia / **State/Province: CA**	**Zip/Postal Code: 91016** / **Country: USA**
Report To (Name): George Paler	**Fax #:**
Telephone #: (626) 807-3416	**Email Address: gjpaler@converseconsultants.com**
Project Name/Number: 21-42-126-01	
Please Provide Results: ☐ Fax ☒ Email / **Purchase Order:** 2142126 01	**U.S. State Samples Taken:** CA

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

**For TEM Air 3 hours through 6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with LA Testing's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT** (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Rodney Stansfield | **Samplers Signature:** Rodney Stansfield

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	See Attached	See Attached	10/20/21

Client Sample # (s): **Total # of Samples:**

Relinquished (Client): Rod Stansfield **Date:** 10/20/21 **Time:** 2155

Received (Lab): JS(DB) **Date:** 10/21/21 **Time:** 8a

Comments/Special Instructions:

#332124669

Converse Consultants

717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Concrete Slab

Sample Number	Location	Area Sq. Ft.	Condition
L-01	Pump Enclosure, SW	700	Good
L-02	, North	↓	↓
L-03	, South	↓	↓

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	Low
Influence of Vibration:	~~High~~	Moderate	Low
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS:

CHAIN OF CUSTODY

Relinquished By: [signature] Time: 2155 Date: 10/20/21
Received By: _____ Time: _____ Date: _____
Relinquished By: _____ Time: _____ Date: _____
Received By: _____ Time: _____ Date: _____

Page 2 of 8

#332124669
Converse Consultants
717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Concrete Pipe Sleaves

Sample Number	Location	Area Sq. Ft.	Condition
L-04	Pump Enclosure, East Pipe	90	Good
L-05	" , Center Pipe	"	"
L-06	" , West Pipe	"	"

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	Low
Influence of Vibration:	~~High~~	~~Moderate~~	Low
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS: on large metal pipes

CHAIN OF CUSTODY

Relinquished By: [signature] Time: 2155 Date: 10/20/21
Received By: _____ Time: _____ Date: _____
Relinquished By: _____ Time: _____ Date: _____
Received By: _____ Time: _____ Date: _____

#332124669

Converse Consultants

717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21 RS

HOMOGENEOUS MATERIAL: Pipe Gasket

Sample Number	Location	Area Sq. Ft.	Condition
L-07	Pump Enclosure, East Pipe	50	Good
L-08	, Center Pipe	↓	↓
L-09	, Center Pipe	↓	↓

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	~~Low~~
Influence of Vibration:	High	~~Moderate~~	~~Low~~
Potential for Air Erosion:	High	~~Moderate~~	Low
Damage Assessment:	~~Good~~	~~Damaged~~	Significantly Damaged

COMMENTS: on flanges. Rubber-like material

CHAIN OF CUSTODY

Relinquished By: Rod Steenfield Time: 2155 Date: 10/20/21
Received By: _____ Time: _____ Date: _____
Relinquished By: _____ Time: _____ Date: _____
Received By: _____ Time: _____ Date: _____

Page 4 of 8

#332124669

Converse Consultants
717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Vibration Damper

Sample Number	Location	Area Sq. Ft.	Condition
L-10	Pump Enclosure, West Pipe	3	Good

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	Moderate	~~Low~~
Influence of Vibration:	High	~~Moderate~~	~~Low~~
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS: Observed beneath west large pipe only. Between Pipe and support.

CHAIN OF CUSTODY

Relinquished By: [signature] Time: 2155 Date: 10/20/21
Received By: _____ Time: _____ Date: _____
Relinquished By: _____ Time: _____ Date: _____
Received By: _____ Time: _____ Date: _____

Page 5 of 8

Converse Consultants

#332124669

717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Brick Mortar

Sample Number	Location	Area Sq. Ft.	Condition
L-11	Electrical Bldg, Exterior, East	700	Good
L-12	" , " , North	"	"
L-13	" , Interior, West	"	"

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	Low
Influence of Vibration:	High	~~Moderate~~	Low
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS:

CHAIN OF CUSTODY

Relinquished By:	[signature]	Time: 2155	Date: 10/20/21
Received By:		Time:	Date:
Relinquished By:		Time:	Date:
Received By:		Time:	Date:

OrderID: 332124669

#332124669

717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

Converse Consultants

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Concrete Slab Floor

Sample Number	Location	Area Sq. Ft.	Condition
L-14	Electrical Bldg, Interior, East	250	Good
L-15	" , " , Center	"	"
L-16	" , " , SW	"	"

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	Low
Influence of Vibration:	High	~~Moderate~~	Low
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS:

CHAIN OF CUSTODY

Relinquished By: Rob Greenfield Time: 2155 Date: 10/20/21

Received By: Time: Date:

Relinquished By: Time: Date:

Received By: Time: Date:

#332124669

717 S. Myrtle Avenue
Monrovia, CA 91016-3422
Tel.: (626) 930-1200
Fax: (626) 930-1212

Converse Consultants

BULK SAMPLE LOG

Project Name: Chet Harritt Pump Station Collected By: RDS

Project No.: 21-42-126-01 Date: 10/20/21

HOMOGENEOUS MATERIAL: Concrete Roof

Sample Number	Location	Area Sq. Ft.	Condition
L-17	Electrical Bldg, Roof, SE	450	Good
L-18	" , " , SW	"	"
L-19	" , " , NW	"	"

Friability:	Friable	~~Non-Friable~~	
Potential for Contact with Material:	High	~~Moderate~~	~~Low~~
Influence of Vibration:	High	Moderate	~~Low~~
Potential for Air Erosion:	~~High~~	Moderate	Low
Damage Assessment:	~~Good~~	Damaged	Significantly Damaged

COMMENTS: No mastic

CHAIN OF CUSTODY

Relinquished By: [signature] Time: 2155 Date: 10/20/21

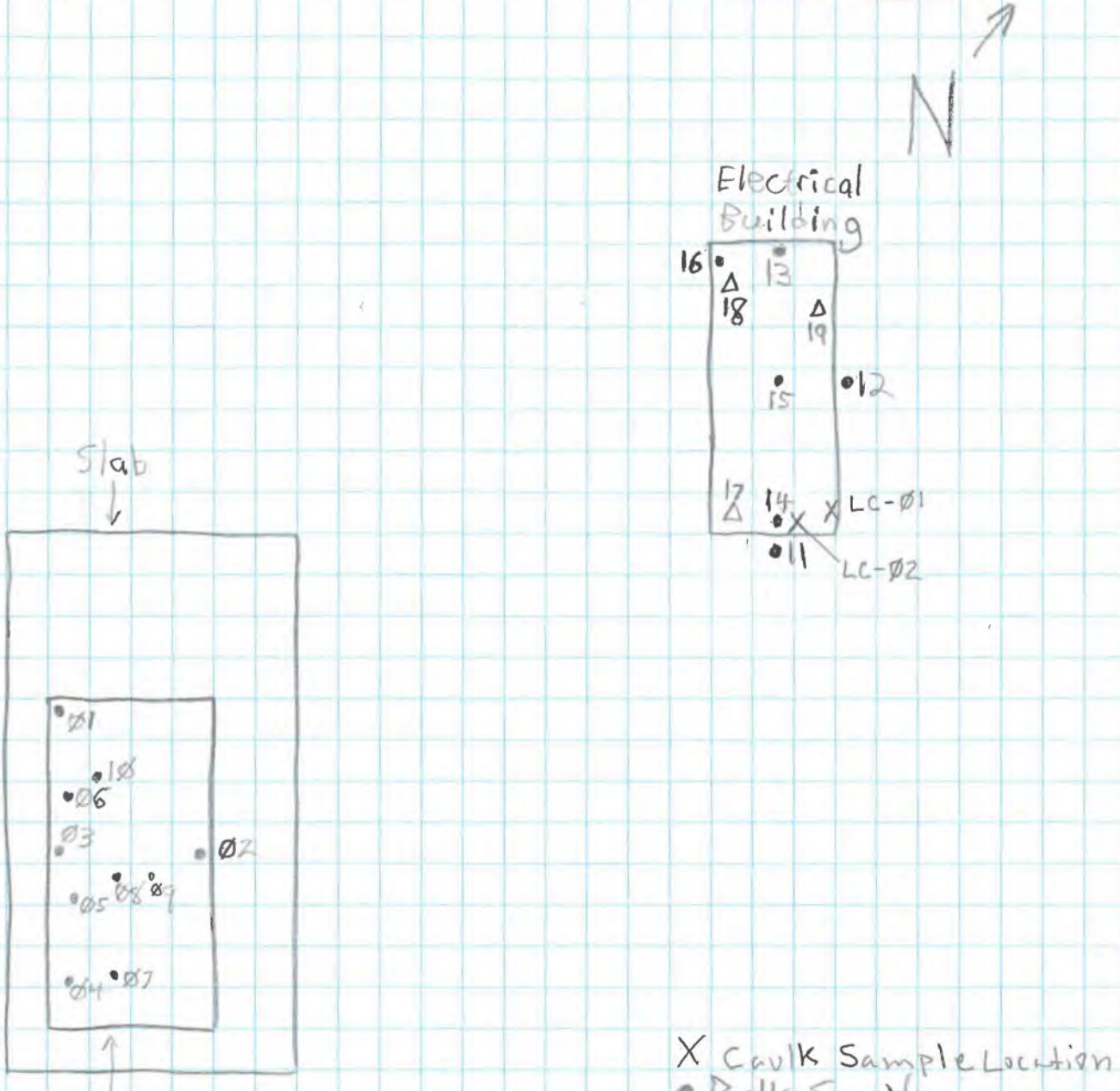
Received By: _____ Time: _____ Date: _____

Relinquished By: _____ Time: _____ Date: _____

Received By: _____ Time: _____ Date: _____

Page 8 of 8

10/20/21
Chet Hamitt Pump Station
21-42-126-01



Sample Location Map

Lead

Date Inspection: 10/20/2021
Inspector: Rodney Stansfield
CDPH:LRC-4364

XRF Summary Table
Black and Veatch
Chet Harritt Pump Station
Lakeside, CA

Analyzer: Viken PB200i
Units: mg/cm2
Action Lvl: 1.0 mg/cm2

Reading No.	Exterior/ Interior	Room	Structure	Color	Component	Additional Comment	Side	Condition	Lead Conc.	Result
1	Calibration								1.1	Positive
2	Calibration								1.1	Positive
3	Calibration								1.2	Positive
4	Exterior	Pump Enclosure	Misc	Beige	Canopy	Metal		Intact	0.1	Negative
5	Exterior	Pump Enclosure	Column	Beige		Metal		Deteriorated	0.1	Negative
6	Exterior	Pump Enclosure	Misc	Blue	Pump	Metal		Intact	0	Negative
7	Exterior	Pump Enclosure	Pipe	Blue		Metal		Intact	0	Negative
8	Exterior	Pump Enclosure	Misc	Blue	Conduit	Metal		Intact	0	Negative
9	Exterior	Pump Enclosure	Misc	Blue	Valve	Metal		Intact	0	Negative
10	Exterior	Pump Enclosure	Misc	Blue	Pipe Support	Metal		Intact	0.4	Negative
11	Exterior	Pump Enclosure	Misc	Blue	Well Cover	Metal		Intact	7.5	Positive
12	Exterior	Pump Enclosure	Electric Panel	Blue		Metal	West	Intact	0.1	Negative
13	Exterior	Pump Enclosure	Misc	Blue	Pump Base	Metal		Intact	0.1	Negative
14	Exterior	Pump Enclosure	Misc	Blue	Pump Conduit	Metal		Intact	6.3	Positive
15	Exterior	Pump Enclosure	Misc	Blue	Valve Weight	Concrete		Intact	0.4	Negative
16	Exterior	Pump Enclosure	Misc	Blue	Valve Handle	Metal		Intact	0.3	Negative
17	Exterior	Pump Enclosure	Misc	Blue	Conduit	Metal		Intact	1	Positive
18	Exterior	Pump Enclosure	Pipe	Blue		Metal	West	Intact	0.5	Negative
19	Exterior	Pump Enclosure	Pipe	Blue		Metal	West	Intact	0.8	Negative
20	Exterior	Pump Enclosure	Misc	Yellow	Well Cover	Metal	North	Intact	0.3	Negative
21	Exterior	Pump Enclosure	Misc	Yellow	Manhole Cover	Metal	North	Intact	0.1	Negative
22	Exterior	Pump Enclosure	Misc	Brown	Well Cover	Metal	East	Deteriorated	-0.1	Negative
23	Exterior	Electrical Building	Room	Beige	Wall	Brick	North	Intact	0.2	Negative
24	Exterior	Electrical Building	Vent	Brown		Metal	East	Intact	0.6	Negative
25	Exterior	Electrical Building	Vent	Brown		Metal	East	Intact	0	Negative
26	Exterior	Electrical Building	Room	Brown	Wall	Metal	South	Intact	0.2	Negative
27	Exterior	Electrical Building	Door	Brown	Frame	Metal	South	Intact	0.5	Negative
28	Exterior	Electrical Building	Door	Brown		Metal	South	Intact	-0.3	Negative
29	Exterior	Electrical Building	Vent	Brown		Metal	West	Intact	0	Negative
30	Exterior	Electrical Building	Vent	Brown		Metal	West	Intact	-0.1	Negative
31	Interior	Electrical Building	Room	Beige	Wall	Brick	East	Intact	0.2	Negative
32	Interior	Electrical Building	Room	Beige	Wall	Brick	West	Intact	0.1	Negative

Date Inspection: 10/20/2021
Inspector: Rodney Stansfield
CDPH:LRC-4364

XRF Summary Table
Black and Veatch
Chet Harritt Pump Station
Lakeside, CA

Analyzer: Viken PB200i
Units: mg/cm2
Action Lvl: 1.0 mg/cm2

Reading No.	Exterior/ Interior	Room	Structure	Color	Component	Additional Comment	Side	Condition	Lead Conc.	Result
33	Interior	Electrical Building	Door	Brown	Frame	Metal	South	Intact	0.4	Negative
34	Interior	Electrical Building	Vent	Brown		Metal	West	Intact	-0.2	Negative
35	Interior	Electrical Building	A/C	Green		Metal		Intact	0	Negative
36	***Calibration***								***1.2***	***Positive***
37	***Calibration***								***1.1***	***Positive***
38	***Calibration***								***1.1***	***Positive***

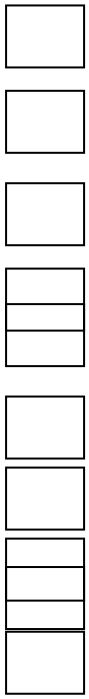
[illegible]


Pump
Conduit

[illegible]

[illegible]

PCB Caulk



Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 452383
Report Level: II
Report Date: 10/28/2021

Analytical Report *prepared for:*

Norman Eke
Converse Consultants
717 S. Myrtle Ave.
Monrovia, CA 91016

Location: 21-42-126-01 Chet Harritt Pump Stn.

Authorized for release by:

Jim Lin, Service Center Manager
Jim.lin@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member

ENTHALPY ANALYTICAL

Sample Summary

Norman Eke
Converse Consultants
717 S. Myrtle Ave.
Monrovia, CA 91016

Lab Job #: 452383
Location: 21-42-126-01 Chet Harritt Pump Stn.
Date Received: 10/21/21

Sample ID	Lab ID	Collected	Matrix
LC-01	452383-001	10/21/21 14:30	Miscell. (Caulking)
LC-02	452383-002	10/21/21 14:45	Miscell. (Caulking)

ENTHALPY ANALYTICAL

Case Narrative

Converse Consultants	Lab Job Number: 452383
717 S. Myrtle Ave.	Location: 21-42-126-01 Chet Harritt Pump Stn.
Monrovia, CA 91016	Date Received: 10/21/21
Norman Eke	

This data package contains sample and QC results for two caulking samples, requested for the above referenced project on 10/21/21. The samples were received cold and intact.

PCBs (EPA 8082):

No analytical problems were encountered.

ENTHALPY ANALYTICAL

Chain of Custody Record

452383

Page 1 of 1

Special Handling:

☒ Standard Turn Around Time

☐ Rush Turn Around Time -- Date Needed_____

- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: Rod Stansfield

Client Name: Converse Consultants

Project Manager: Norman Eke

Project Number: 21-42-126-01

Site Name: Chet Harritt Pump Stn

Location: Lakeside, CA

PO#: 214212601

Telephone#: 626-930-1260

Email: neke@conversecconsultants.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=Air 1=H2SO4 2=NaOH W=Water O=Other
X=XAD C=Charcoal SG=Silica Gel
G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	8082 PCBs							Notes:
LC-01	10/20/21	1430	6 g	G	Bulk		1						X							Interior Vents
LC-02	10/20/21	1445	11 g	G	Bulk		1						X							Radio Mast

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
Rod Stansfield	10/21/21		10/21/21	1806	☒ Iced ☐ Ambient ☐ °C 3.8/3.4
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Converse Consultants Project: 21-42-126-01

Date Received: 10/15/21 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 3.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 3.4 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 10/21/21

Enthalpy Analytical, a subsidiary of Montrose Environmental Group, Inc.
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www.enthalpy.com/socal

ENTHALPY ANALYTICAL

Analysis Results for 452383

Norman Eke
Converse Consultants
717 S. Myrtle Ave.
Monrovia, CA 91016

Lab Job #: 452383
Location: 21-42-126-01 Chet Harritt Pump Stn.
Date Received: 10/21/21

Sample ID: LC-01 **Lab ID: 452383-001** **Collected: 10/21/21 14:30**
Matrix: Miscell.

452383-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8082 Prep Method: EPA 3580									
Aroclor-1016	ND		ug/Kg	2,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1221	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1232	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1242	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1248	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1254	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1260	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1262	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1268	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Surrogates				**Limits**					
Decachlorobiphenyl (PCB)	58%		%REC	19-121	20	276457	10/22/21	10/27/21	TJW

Sample ID: LC-02 **Lab ID: 452383-002** **Collected: 10/21/21 14:45**
Matrix: Miscell.

452383-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8082 Prep Method: EPA 3580									
Aroclor-1016	ND		ug/Kg	2,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1221	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1232	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1242	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1248	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1254	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1260	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1262	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Aroclor-1268	ND		ug/Kg	1,000	20	276457	10/22/21	10/27/21	TJW
Surrogates				**Limits**					
Decachlorobiphenyl (PCB)	65%		%REC	19-121	20	276457	10/22/21	10/27/21	TJW

ND Not Detected

Results for any subcontracted analyses are not included in this section.

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Batch QC

Type: Blank	**Lab ID:** QC951046	**Batch:** 276457
Matrix: Soil	**Method:** EPA 8082	**Prep Method:** EPA 3580

QC951046 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Aroclor-1016	ND		ug/Kg	100	10/22/21	10/24/21
Aroclor-1221	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1232	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1242	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1248	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1254	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1260	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1262	ND		ug/Kg	50	10/22/21	10/24/21
Aroclor-1268	ND		ug/Kg	50	10/22/21	10/24/21
Surrogates				**Limits**		
Decachlorobiphenyl (PCB)	76%		%REC	19-121	10/22/21	10/24/21

Type: Lab Control Sample	**Lab ID:** QC951047	**Batch:** 276457
Matrix: Soil	**Method:** EPA 8082	**Prep Method:** EPA 3580

QC951047 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Aroclor-1016	345.3	500.0	ug/Kg	69%		14-150
Aroclor-1260	357.0	500.0	ug/Kg	71%		10-150
Surrogates						
Decachlorobiphenyl (PCB)	36.56	50.00	ug/Kg	73%		19-121

Type: Matrix Spike	**Lab ID:** QC951048	**Batch:** 276457
Matrix (Source ID): Soil (452295-001)	**Method:** EPA 8082	**Prep Method:** EPA 3580

QC951048 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Aroclor-1016	288.3	ND	500.0	ug/Kg	58%		42-127	1
Aroclor-1260	300.4	ND	500.0	ug/Kg	60%		38-130	1
Surrogates								
Decachlorobiphenyl (PCB)	29.39		50.00	ug/Kg	59%		19-121	1

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Batch QC

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC951049**	**Batch:**	**276457**
Matrix (Source ID):	**Soil (452295-001)**	**Method:**	**EPA 8082**	**Prep Method:**	**EPA 3580**

QC951049 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Aroclor-1016	289.1	ND	500.0	ug/Kg	58%		42-127	0	30	1
Aroclor-1260	293.6	ND	500.0	ug/Kg	59%		38-130	2	30	1
Surrogates										
Decachlorobiphenyl (PCB)	28.99		50.00	ug/Kg	58%		19-121			1

ND Not Detected