Mitigated Negative Declaration

NORTH HOLLYWOOD WEST WELL FIELD WATER TREATMENT PROJECT

Los Angeles Department of Water and Power
Environmental Affairs
111 North Hope Street, Room 1044
Los Angeles, California 90012

December 2016

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
1,1-DCE	1,1-dichloroethene
1,2,3-TCP	1,2,3-trichloropropane
AB	Assembly Bill
ANSI	American National Standards Institute
AOP	advanced oxidation process
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
cfs	cubic feet per second
CH_4	methane
CMP	congestion management plan
CO	carbon monoxide
CO_2	carbon dioxide
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
EIR	environmental impact report
FS	feasibility study
GAC	granular activated carbon
GHG	greenhouse gas
gpm	gallons per minute
GWP	global warming potential
H_2O	water vapor
H_2O_2	hydrogen peroxide
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
L_{eq}	equivalent continuous sound level
L_{max}	maximum sound level during the measurement interval
LOS	level of service
LPGAC	liquid phase granular activated carbon
LST	localized significance threshold
MCL	maximum contaminant level
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MT	metric ton(s)

Acronym/Abbreviation	Definition
MT CO_2E	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NDMA	N-nitrosodimethylamine
NHW	North Hollywood West
NL	notification level
NO_x	oxides of nitrogen
O_3	ozone
PCE	tetrachloroethene
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
RI	remedial investigation
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SDWA	Safe Drinking Water Act
SFB	San Fernando Groundwater Basin
SO_x	sulfur oxides
SR-	State Route
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCE	trichloroethene
TCR	tribal cultural resource
TMDL	total maximum daily load
U.S. EPA	United States Environmental Protection Agency
UV	ultraviolet
VOC	volatile organic compound
µg/L	micrograms per liter

1 INTRODUCTION

1.1 Overview of the Proposed Project

The Los Angeles Department of Water and Power (LADWP) proposes to implement a response action to address releases of 1,4-dioxane in groundwater that are migrating to the North Hollywood West (NHW) Well Field (Proposed Project, also referred to as the NHW Well Field Water Treatment Project). LADWP removed seven wells in this well field from service due to the presence and/or threat of 1,4-dioxane contamination at the wells. Additional NHW wells are threatened by 1,4-dioxane. This response action would be achieved by installing treatment equipment capable of removing the 1,4-dioxane to below identified cleanup levels. It would also minimize the spread of contaminant mass, limit further degradation of the groundwater basin directly downgradient of the NHW wells, remove contaminant mass from the aquifer, assist in the restoration of beneficial uses of the groundwater basin, prevent the ingestion of groundwater that exceeds cleanup levels, and restore LADWP's capability to operate its existing NHW Well Field in a flexible manner consistent with historic and planned use.

The treatment equipment would be located on property owned by LADWP that includes the affected groundwater production wellheads. The property is located between the Hollywood Freeway (State Route [SR]-170) and Whitsett Fields, which is part of Valley Plaza Park, in the community of North Hollywood in the City of Los Angeles (Figures 1-1 and 1-2). Certain NHW wells would be connected to an advanced oxidation process (AOP) treatment facility, which involves injection of hydrogen peroxide into the water followed by exposure to ultraviolet (UV) radiation. The hydrogen peroxide-UV treatment converts the 1,4-dioxane into several benign constituents. In addition, granular activated carbon (GAC) filtration would be used to remove any excess hydrogen peroxide remaining in the product water after AOP. This system would also remove tetrachloroethylene (PCE), and trichloroethylene (TCE) that is present in the water pumped from the connected wells to below applicable drinking water standards. The treated water would then enter the existing well collector pipeline.

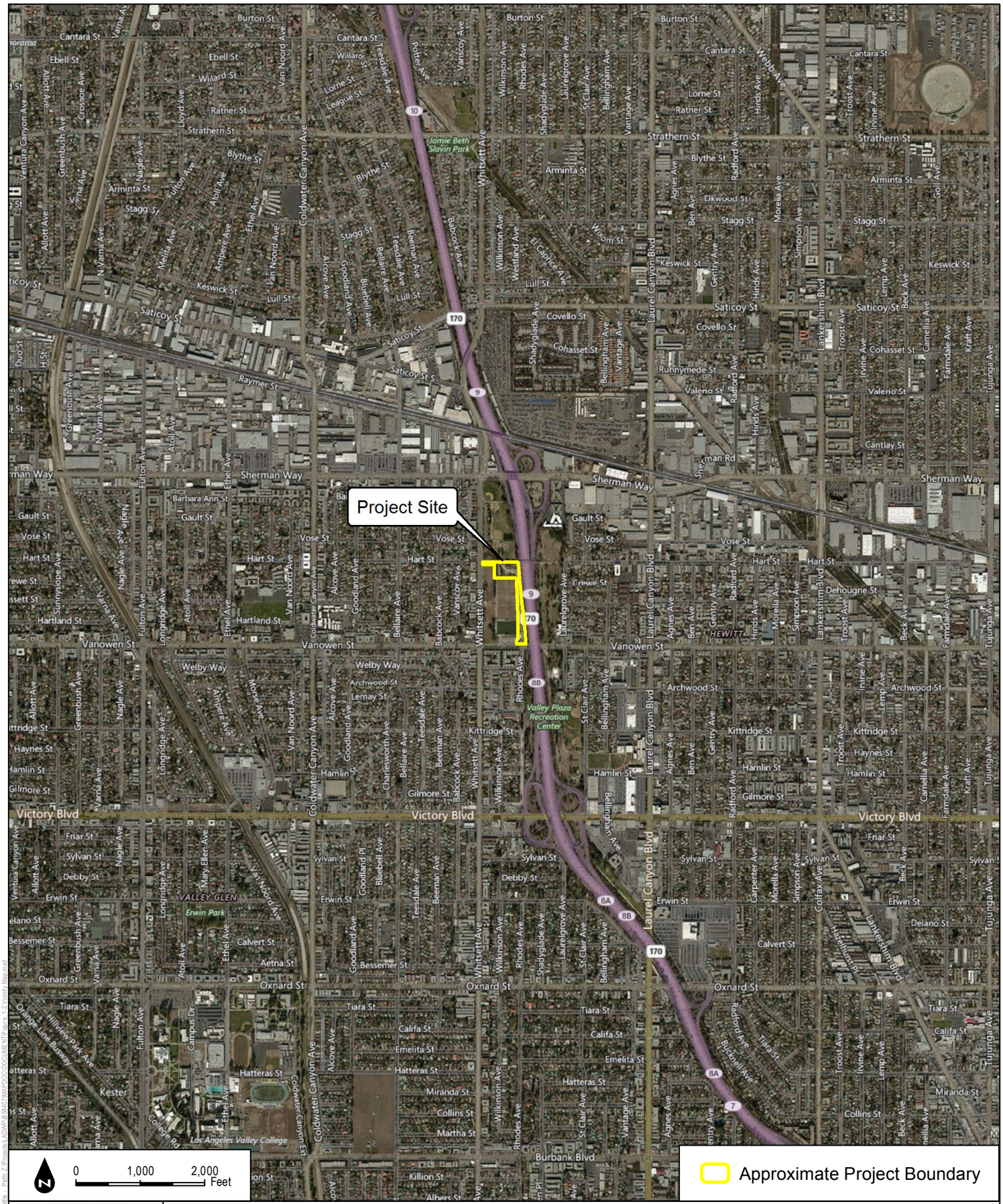
Design, procurement, construction, and commissioning of the proposed treatment technologies, anticipated to take approximately 2.5 years to implement. Active construction at the site would take approximately 12 months to complete, beginning in mid-2018. The proposed treatment equipment would contain the 1,4-dioxane plume in the vicinity of the NHW Well Field and remove and treat the groundwater contaminated with 1,4-dioxane and other contaminants, and produce potable water that meets applicable drinking water standards. It would protect the well field and enable LADWP to resume use of seven affected wells at NHW Well Field in a manner that protects public health and the environment.

FIGURE 1-1

Regional Map

North Hollywood West Well Field Water Treatment Project

Z:\Templates\Arcmap\Current\Vicinity\8x11_Vicinity_Portrait.mxd



SOURCE: Bing Maps, 2016

FIGURE 1-2
Vicinity Map

North Hollywood West Well Field Water Treatment Project

1.2 California Environmental Quality Act

The California Environmental Quality Act (CEQA) applies to proposed projects initiated by, funded by, or requiring discretionary approvals from state or local government agencies. The proposed NHW Well Field Water Treatment Project constitutes a project as defined by CEQA (California Public Resources Code, Section 21065). LADWP, as a municipal utility, would implement and operate the Proposed Project and will therefore act as the CEQA lead agency. LADWP would also fund the Proposed Project, but in addition, would seek funding from available sources, which may include State Proposition 1 funds.

An Initial Study has been prepared by LADWP as the lead agency in accordance with CEQA guidelines to evaluate potential environmental effects and to determine whether an Environmental Impact Report (EIR) or a Negative Declaration or Mitigated Negative Declaration (MND) should be prepared for the Proposed Project. The Initial Study has also been prepared to satisfy CEQA requirements of agencies that would provide sources of funding for the Proposed Project. An MND is prepared for a project when an Initial Study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.

The Initial Study determined that the implementation of the Proposed Project could cause some potentially significant impacts on the environment, but as shown in the environmental analysis contained in this MND, all of the Project's potentially significant impacts would be reduced to less than significant levels through the implementation of mitigation measures. Consequently, the analysis contained herein concludes that an MND shall be prepared for the Proposed Project. The MND is composed of four sections. Section 1 provides the introduction to the Proposed Project, general information about the contents of the MND and information about the Lead Agency. Section 2 provides a description of the Proposed Project components and information about their construction and operation. Section 3 includes the CEQA Initial Study checklist, which provides the assessment of potential environmental impacts and the applicability of mitigation measures to reduce potentially significant impacts to less than significant. Section 4 provides a list of the Lead Agency staff and consultants involved in preparing the environmental review documents for the Proposed Project. The MND also includes several appendices that contain technical resource reports related to air quality and greenhouse gas (GHG) emissions, biological resources, cultural resources, and noise. A CEQA+ appendix is also included that provides documentation of compliance with federal environmental laws in the event federal funding is requested.

1.3 Project Need and Background

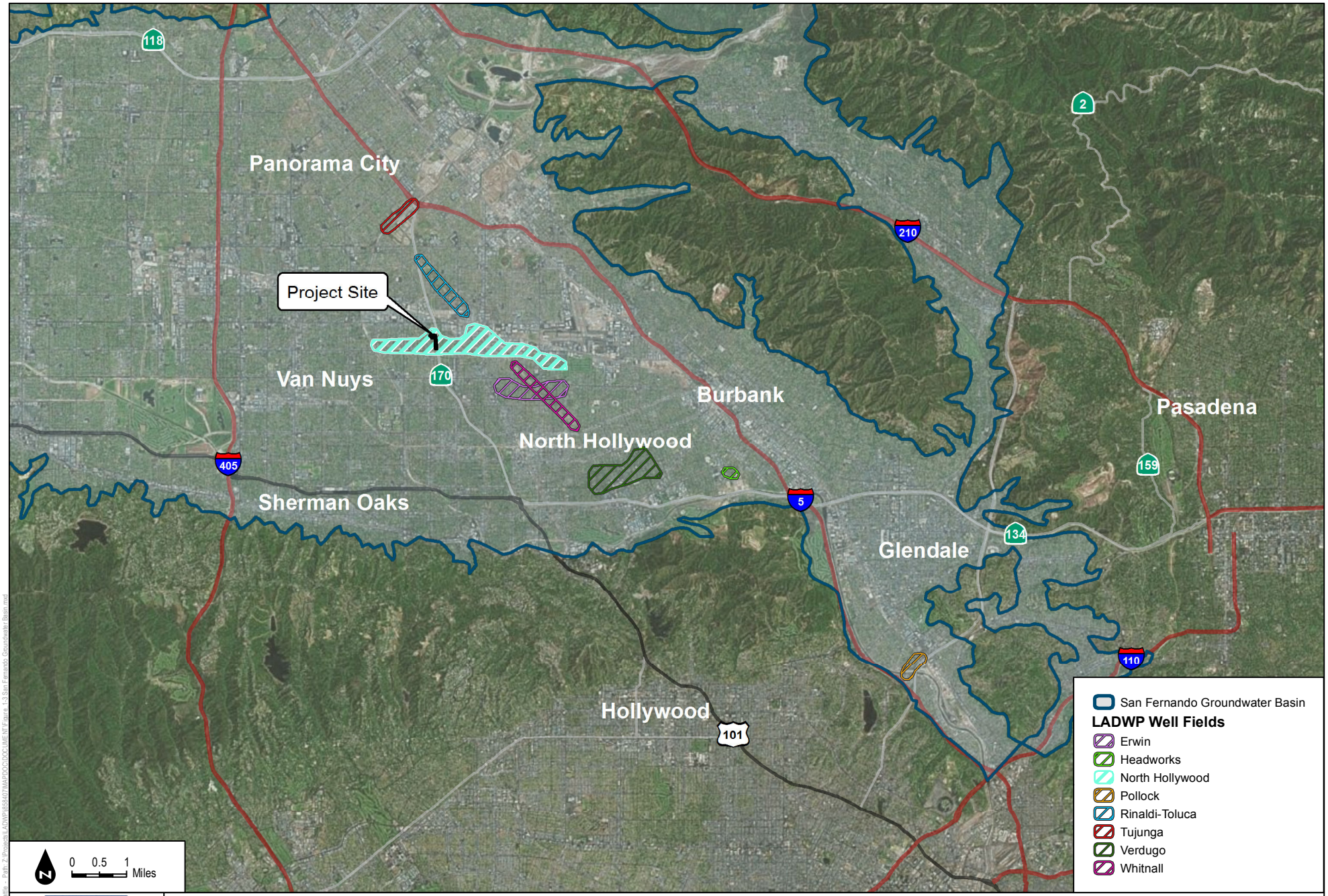
Overview

In many areas of the San Fernando Groundwater Basin (SFB), where LADWP holds extraction rights, past improper handling and disposal of industrial compounds, primarily used as solvents in manufacturing processes, have created contamination plumes in the groundwater aquifer. In some areas, these plumes are widespread, and because they migrate downgradient in the aquifer, a number of LADWP's potable water well fields have become contaminated. This has led to the inactivation of progressively more wells as the contamination migrates through the groundwater aquifers, resulting in about a 45% reduction in LADWP's total pumping capacity from the SFB. The Proposed Project is intended to respond to the releases of 1,4-dioxane affecting the NHW Well Field in a manner that protects public health and the environment. Specifically, the Proposed Project is being undertaken to limit the spread of 1,4-dioxane contamination by containing the plume in the vicinity of the NHW Well Field, to remove and treat 1,4-dioxane in the groundwater, and to help restore the beneficial uses of the groundwater basin (including potable water storage and use).

Groundwater Contamination Affecting NHW Portion of the SFB

Since groundwater monitoring first detected concentrations of a variety of contaminants in the SFB in the 1980s, the United States Environmental Protection Agency (U.S. EPA), LADWP, the cities of Glendale and Burbank, and other agencies, such as the State Water Resources Control Board Division of Drinking Water (DDW), and the Los Angeles Regional Water Quality Control Board (LARWQCB), have joined in efforts to identify and remediate the contamination. Though some progress has been made in identifying, containing, and removing contaminants, full containment has not been achieved, and some contaminant plumes are expanding.

There are 11 groundwater extraction well fields in the SFB that have been used or are currently being used to produce potable water supplies for the cities of Los Angeles, Burbank, and Glendale. LADWP operates eight of these well fields, as well as numerous wells that are located outside of these named well fields (see Figure 1-3). Over the last 5 years, local groundwater has provided approximately 12% of the total water supply for Los Angeles, and since 1970 has provided up to 23% of total supply during extended dry periods when imported supplies become less reliable. In accordance with the 2015 City of Los Angeles Urban Water Management Plan, the City plans to obtain 50% of water locally by 2035. The primary source of local water is groundwater, and the primary source of local groundwater is the SFB (LADWP, 2016). However, about half of LADWP's groundwater production wells in the SFB are inactive due to groundwater contamination. If effective remediation and cleanup measures are not put in place, then various contaminants found in the SFB will continue to spread and to degrade LADWP's groundwater supply and require more wells to be removed from service. Without treatment, this contamination will reduce LADWP's ability to extract groundwater from the SFB, thereby compromising its ability to provide water to the City of Los Angeles.



SOURCE: Bing Maps, 2016; CDWR 2015

FIGURE 1-3

Well Fields in the San Fernando Groundwater Basin

North Hollywood West Well Field Water Treatment Project

Previous remedial investigations (RIs) by U.S. EPA have served to delineate the nature and extent of contamination in specific areas of the SFB. Further investigations, implementation of treatment systems, and groundwater quality monitoring are ongoing to address the contamination identified by these studies. In early 2015, LADWP completed the SFB Groundwater System Improvement Study (GSIS), which was a 6-year study characterizing the groundwater basin contamination in the SFB. Twenty-five new monitoring wells were drilled in support of the GSIS. These new wells, along with a network of more than 70 existing wells, are being used to characterize the basin's groundwater quality and develop groundwater remediation facilities for removing contamination from the City's major well fields in the SFB. Primary areas of concern within the SFB include the Tujunga, Rinaldi-Toluca, North Hollywood, and Pollock well fields. Due to the specific nature of the contamination in certain areas, LADWP decided on a discrete remedial action approach that consists of analyzing and developing facilities for localized treatment at specific sites. Thus, response actions vary by individual wells and well fields across the SFB. The response actions could include, among other things, interim remedial actions that address a discrete contamination issue at a well field, as well as remedial actions that address a broader set of contamination issues at a well field.

LADWP identified the Proposed Project as a discrete, localized interim remedial action to address the release of 1,4-dioxane contamination to groundwater that is migrating to the NHW Well Field. The remedial action that comprises this Proposed Project focuses on the NHW wells, with 1,4-dioxane as the chemical of concern (see Section 2.1 for a description of the 1,4-dioxane contamination affecting NHW wells).

State and federal regulatory agencies are beginning to evaluate potential response actions that may be initiated upgradient of the NHW Well Field to address the source area for the 1,4-dioxane and the core of the plume just downgradient of that source area (U.S. EPA 2016 and LARWQCB 2015). Those actions have the potential to enhance the effectiveness of the Proposed Project by reducing the future migration of 1,4-dioxane towards the NHW Well Field, but they do not preclude the need to address the impacts that already exist at or near the NHW Well Field. Moreover, it is not clear when such upgradient response actions will be initiated, if ever, and whether such actions will be effective, in whole or in part. None of those actions will address the releases of 1,4-dioxane that are currently affecting the NHW Well Field and the corresponding current impairment of beneficial use of the groundwater resources. LADWP will continue to monitor the status of these other potential actions, continue to work with the agencies and other stakeholders, and will adjust this interim remedial action as appropriate based on new information as it develops.

General Approach to SFB Groundwater Remediation

In 1986, U.S. EPA placed four sites (or areas) in the eastern SFB on the National Priorities List. Since that time, U.S. EPA has selected several response actions to address the release of

hazardous substances located in certain portions of the basin (U.S. EPA 1987, 1989, 1993, 2004, 2009, and 2014a). LADWP is working in concert with U.S. EPA and the LARWQCB to identify responsible parties and implement response actions in the SFB. LADWP is also investigating the feasibility of implementing response actions to address releases of hazardous substances that are not currently being addressed by U.S. EPA.

LADWP plans to complete the response actions in substantial compliance with the National Contingency Plan (NCP). The NCP provides the organizational structure and procedures for responding to releases and threatened releases of, among other things, hazardous substances, pollutants, and contaminants. For an interim or final remedial action, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the NCP involves preparation of an RI, preparation of a feasibility study (FS), and various public participation steps, including the publication of a Proposed Plan. Following a public comment period and meeting, a response action may be approved, which would be documented in a decision document.

In the case of the NHW Well Field Water Treatment Project, LADWP has prepared the NHW Well Field Interim RI/FS Report (RI/FS; LADWP 2016a) and a corresponding NHW Proposed Plan. Building on prior work by LADWP, U.S. EPA, and others, the RI/FS presents LADWP's understanding of the groundwater basin physical characteristics, nature and extent of 1,4-dioxane contamination, fate and transport characteristics of the 1,4-dioxane, and the contaminant's risk to human health as it relates to the subject NHW production wells. The RI/FS investigated a variety of remedial alternatives, from different treatment methods to obtaining water from alternative sources. The RI/FS concluded that capture of the plume through the pumping of certain NHW wells and treating that water with AOP treatment using hydrogen peroxide and UV light, followed by GAC quenching, is the recommended remedial action for addressing the 1,4-dioxane contaminated water at the NHW Well Field. Pursuant to CEQA, this recommended remedial action has been evaluated for its potential environmental impacts in this MND. The RI/FS, including the alternatives and the Proposed Plan, will be reviewed and finalized concurrently with the MND. LADWP will consider public comments on the RI/FS, Proposed Plan, and the MND prior to making a decision on the Proposed Project.

2 PROJECT DESCRIPTION

2.1 Environmental Setting

North Hollywood West Well Field

The North Hollywood Well Field is one of LADWP's production well fields within the SFB. It is subdivided into three smaller well fields, one of which is the NHW Well Field. The NHW Well Field is located along Vanowen Street just west of SR-170. Fourteen production wells make up the NHW Well Field. The wells are generally located in an L-shaped pattern, with eight wells in an east–west orientation along Vanowen Street and six wells in a north–south orientation parallel to SR-170.

The Nature of 1,4-Dioxane Contamination at NHW

1,4-dioxane is a colorless, flammable, organic liquid. It is used as a chemical stabilizer for chlorinated solvents such as TCE and PCE. It is also an additive in many products, including paint strippers, dyes, greases, varnishes, and waxes. 1,4-dioxane is also found as an impurity in antifreeze and aircraft deicing fluids and in some consumer products, such as deodorants, shampoos, and cosmetics (U.S. EPA 2006, 2014b).

Currently, there is no federal drinking water standard or established maximum contaminant level (MCL) for 1,4-dioxane. However, several U.S. EPA regions and states have developed guidance for characterizing and remediating 1,4-dioxane in soil and water. U.S. EPA's cancer risk assessment for 1,4-dioxane is based on an oral slope factor of 0.1 milligrams per kilogram per day, and the drinking water unit risk is 2.9×10^{-6} micrograms per liter (µg/L) (Ibid.).

The state DDW establishes MCLs and notification levels (NLs) for drinking water contaminants in California. NLs are health-based advisory levels, and an NL exceedance prompts certain requirements and recommendations from DDW. DDW has not adopted an MCL for 1,4-dioxane (SWRCB 2014) but has established an NL of 1.0 µg/L. In the vicinity of the NHW Well Field, 1,4-dioxane has been found in groundwater above the NL. The source of the contamination is generally located east and north of the well field. Extracted water is currently analyzed from each production well in the NHW Well Field on a monthly basis. LADWP removed seven NHW production wells from service because the wells were affected by or imminently threatened with 1,4-dioxane contamination. Historic concentrations of 1,4-dioxane at the affected NHW wells on the Proposed Project site are provided Table 1.

Table 1
Historic 1,4-Dioxane Concentrations in Selected NHW Wells

Well ID	1,4-Dioxane Concentration*
NH-26	2.3
NH-34	3.2
NH-36	1.3
NH-37	15.6
NH-43A	35.2
NH-44	2.2
NH-45	7.6

Source: LADWP, 2016a
* Concentrations in micrograms per liter; parts per billion

Consistent with the approach taken by U.S. EPA for the North Hollywood Operable Unit and the NCP, LADWP has identified the California NL for 1,4-dioxane (1 µg/L) as a "To Be Considered" or "TBC" standard for the NHW remedial action, and as such, the NL applies as a cleanup level for the NHW response action.

Other contaminants have also been detected in the NHW Well Field. These contaminants are volatile organic compounds (VOCs), including TCE, PCE, and 1,1-dichloroethene (1,1-DCE), that are part of a larger contamination plume that will be addressed under a separate response action at a later date. However, where these contaminants are present in NHW wells that would be connected to the proposed treatment system under the current interim remedial action, the contaminants would be removed such that treated water would achieve all regulatory limits in potable water for such chemicals. In the interim, NHW wells that contain these other contaminants and that are not connected to the proposed treatment system will only be used if the contaminants are present at levels that are low enough that they can be safely addressed through the existing *State of California Domestic Water Supply Permit* issued by DDW to LADWP.

Proposed Project Site

The Proposed Project site is located within the existing well field site adjacent to Whitsett Fields in Valley Plaza Park in the City of Los Angeles. To the immediate east is SR-170, which forms the eastern boundary of the Proposed Project site. The site is generally bounded on the north, west, and south by sports fields. The Proposed Project site is surrounded by chain-link fencing that separates it from the park areas; the site is not open to the public. LADWP owns the Proposed Project site and the sports fields that are located adjacent to the Proposed Project site. The sports fields are managed by the City of Los Angeles Department of Recreation and Parks. The Proposed Project site and the sports fields are collectively part of Assessor's Parcel Number 2324-035-902, which occupies a total of 12 acres (City of Los Angeles 2015a).

The approximately 4-acre Proposed Project site contains seven wellheads, a well control house, a water distribution pipeline, access drives, and existing water treatment infrastructure (Figure 2-1). Wellheads located within the Proposed Project site are NH-34, NH-36, NH-37, NH-45, NH-44, and NH-43A, and NH-26. Each of the wellheads are individually enclosed by a chain link fence. The 625-square-foot well control house is located at the north side of the site and is also enclosed by a chain-link fence. The site is also currently being used for the storage of miscellaneous pipe sections. Ornamental trees generally surround the Project site. Other than the elements described above, the site is essentially vacant and generally has the appearance of an industrial facility.

The two access drives provide connection with Vanowen Street and Whitsett Avenue. An east–west, unpaved access road extends from the northwest corner of the Proposed Project site to Whitsett Avenue to the west. The road is separated from the sports fields with chain-link fencing. This access road has a driveway on Whitsett Avenue, with a gate that controls vehicular access. A similar access drive extends north–south from Vanowen Street. This access drive is bordered by SR-170 to the east and sports fields to the west. Towards the southern end of the access drive, adjacent to the sports fields, are a variety of existing LADWP water treatment and distribution structures, including a surge chamber and control building and a chlorination station. No structural or operation changes to these facilities are proposed under the Proposed Project. This access drive has a gated entry along Vanowen Street. The southern portion of the access drive and the area surrounding the surge chamber and control building and chlorination station are paved, while the access drive that extends north from the chlorination station is unpaved.

Surrounding Land Uses

The Proposed Project site is located in a highly urbanized area developed primarily with residential, public facilities, commercial, and industrial land uses. The Proposed Project site is surrounded on three sides by recreational land uses (i.e., Whitsett Fields) and on one side by a major transportation corridor (SR-170). Single- and multi-family residential uses are located to the west, along Whitsett Avenue, and the south, along Vanowen Avenue. Some commercial uses are located near major intersections in the vicinity of the Proposed Project site.

2.2 Project Facilities

The RI/FS provides details about the necessary components of the proposed remedial action and Proposed Plan. The Proposed Project presented in this MND is based on the Proposed Plan. There are three main components of the Proposed Plan: a groundwater pumping plan that would effectively capture and control the 1,4-dioxane plume that is threatening the NHW Well Field; a treatment plan that would effectively remove 1,4-dioxane from the pumped water, consistent with applicable regulations and requirements and in a manner that protects public health and the environment; and a monitoring and compliance plan to insure that plume control is being achieved and that treated water meets all necessary state and federal drinking water standards. These components are discussed below.

SOURCE: Bing Maps, 2015

FIGURE 2-1

Existing Site Infrastructure and Access Roads

North Hollywood West Well Field Water Treatment Project

Proposed Pumping Plan

The RI/FS provides details about the use of existing wells to support the proposed remedial action. Based on groundwater flow simulations and fate/transport modeling, the existing groundwater wells at the Proposed Project site would have the following functions under the Proposed Project:

- Remediation wells – The remediation wells are assumed to operate continuously, and are anticipated to require ongoing water treatment. Remediation wells are designed to capture the majority of the 1,4-dioxane plume that is migrating toward the NHW Well Field. The remediation wells are NH-34, NH-37, and NH-45.
- Secondary wells – Secondary wells are assumed to operate seasonally or when supply and demand requires, and are expected to remain offline until the remedial wells have removed 1,4-dioxane from groundwater in the vicinity of the secondary wells. The secondary wells are NH-26, NH-43A, and NH-44.
- Preferred wells – These wells include all other active NHW Well Field production wells and are assumed to operate seasonally or when supply demand requires. These wells are not expected to require treatment for 1,4-dioxane.

LADWP has completed groundwater modeling to identify the number of production wells to be included in the Proposed Project and estimate the associated volume of pumping that is required to capture the majority of the upgradient 1,4-dioxane contaminant plume that is anticipated to migrate towards the NHW Well Field. This modeling simulates a remedial alternative concept that uses existing wells to mitigate, to the extent practicable, plume migration to the majority of production wells and restore LADWP's capability to operate NHW Well Field in a flexible manner consistent with historic and planned use. This restoration of use of the NHW wells is consistent with the long-term strategies outlined in the 2015 Los Angeles Urban Water Management Plan intended to "meet the City's water needs while maximizing local resources and minimizing the need to import water."

The modeling indicates that the majority of the 1,4-dioxane plume in the vicinity of the NHW wells would be captured by pumping wells NH-34, NH-37, and NH-45 at their rated capacity of about 7,400 gallons per minute (capacity of these wells is shown in Table 2). Based on the modeling of the 1,4-dioxane plume, it is anticipated that treatment of the three remediation wells would be required for a period of about 15 years to achieve influent 1,4-dioxane concentrations below the NL of 1 µg/L.

Table 2
Rated Capacity of Remediation Wells

Well Number	Rated Capacity (shown in cfs and gpm)
NH-34	5.6 cfs (2,515 gpm)
NH-37	3.3 cfs (1,482 gpm)
NH-45	7.5 cfs (3,368 gpm)
Total Capacity	**16.4 cfs (7,366 gpm)**

Source: LADWP 2016a, RI/FS (cfs to gpm calculations by Dudek).
Notes: cfs = cubic feet per second; gpm = gallons per minute.

Treatment Plan and AOP Technology Overview

Under the Proposed Project, the existing infrastructure on the Proposed Project site would remain in place (i.e., the well control house, the wellheads, and the water distribution pipelines), and the AOP water treatment system for the three remediation wells would be added to the site. AOP is a technology for the removal of 1,4-dioxane in water that has been successfully employed at other locations throughout the United States (U.S. EPA 2006). AOP uses hydroxyl radicals, which are powerful oxidizers, to sequentially oxidize organic contaminants to more benign constituents. The AOP that is proposed for the Project involves use of hydrogen peroxide with sequential exposure to UV light. The reliability of this process has been proven at the regulatory level, and it is a preferred technology for 1,4-dioxane treatment. U.S. EPA has found this AOP treatment to be effective at removing 1,4-dioxane with up to greater than 99% effectiveness (U.S. EPA 2011). There are numerous examples of existing full-scale hydrogen peroxide-UV AOP treatment systems for remediation of 1,4-dioxane in groundwater throughout the U.S.

Proposed Remediation and Treatment Equipment

The proposed AOP treatment equipment would be situated on the site as conceptually shown on Figure 2-2. The purpose and function of each component is as follows:

Pre-Filtration. Groundwater from the Proposed Project production wells would be directed to a pre-filtration system. The filters would remove particulates from the source water and would include three separate filter units operated in parallel. The pre-filtration units remove 98% of particles greater than 74 microns and approximately 75% of particles greater than 5 microns. Figure 2-3A shows an example image of a filter unit.

SOURCE: Bing Maps, 2015

FIGURE 2-2

Proposed AOP Treatment Site

North Hollywood West Well Field Water Treatment Project

Photo A
Typical Prefiltration Unit (Sand Filter)

Photo B
Typical Hydrogen Peroxide Injection Vault

FIGURE 2-3

Typical AOP Equipment (Sand Filter and Injection Vault)

North Hollywood West Well Field Water Treatment Project

Hydrogen Peroxide Storage Facility. Hydrogen peroxide (35% solution) would be stored in three aboveground storage tanks with a total working capacity of 16,000 gallons. The tanks would be located under a shade structure. The hydrogen peroxide storage would occupy an area of approximately 2,500 square feet. In addition to the hydrogen peroxide storage tanks, the facility would include transfer pumps, metering pumps, chemical analyzers, chemical scrubbers, and equipment controls and monitoring. . A containment area would be provided to contain any chemical leaks.

Hydrogen Peroxide Injection Vault. Water from the pre-filtration units would be injected with hydrogen peroxide. One main injection vault would provide a hydrogen peroxide dose of nine parts per million. A backup vault would also be provided. As the water circulates through the injection vault, the hydrogen peroxide is thoroughly mixed into the source water, facilitating optimum treatment. See Figure 2-3B for an example image of an injection vault.

UV Light Treatment. Hydrogen peroxide injection would be followed by UV light treatment. The UV modules would be located inside an enclosed building, which would occupy approximately 4,000 square feet and would be approximately 25 feet in height. There would be 10 main UV reactors and 2 backup reactors, each having 144 low-pressure UV lamps. UV exposure causes conversion of 1,4-dioxane molecules to benign constituents. Figure 2-4A shows an example image of UV reactors.

Liquid Phase Granular Activated Carbon Quenching. After the UV facility, the water would flow through 12 LPGAC vessels to remove any excess hydrogen peroxide before the water is released into the well collector pipeline. Each LPGAC vessel would be 12 feet in diameter and 20 feet in height. The 12 vessels would collectively occupy an area of approximately 2,160 square feet. Figure 2-4B is a photo of an LPGAC vessel similar to what is proposed. After passing through the LPGAC vessels, the water would enter the existing well collector pipeline and then would be discharged into the well field's existing NHW Well Field Collector Line.

Water Supply. The proposed facility would require a water supply source for GAC vessel backwashing and emergency use. A service connection would be provided at the entrance to the property on Whitsett Avenue.

Photo A
Typical UV Reactor

Photo B
Typical Liquid Phase Granular Activated Carbon Vessels

FIGURE 2-4

Typical AOP Infrastructure (UV Reactor and Liquid Phase Granular Activated Carbon Vessels)

North Hollywood West Well Field Water Treatment Project

Wastewater. Well purging and LPGAC vessel backwashing would be required and would produce wastewater that would be discharged to the sewer system. Purging the remediation wells to reduce turbidity at a total flow of 7,400 gpm for 30 minutes would produce about 222,000 gallons of wastewater, while backwashing the 12 LPGAC vessels would produce about 300,000 gallons of wastewater at a rate of 1,000 gpm per vessel for 25 minutes. The well purging and backwash operations would not be conducted simultaneously, and wastewater from each operation would be temporarily stored in on-site Baker tanks and discharged to the sewer system at a rate that would not exceed the capacity of the existing sewer line, which has been determined by City of Los Angeles Bureau of Sanitation to be 139 gpm. At this rate, the Baker tanks could be emptied in about 36-hours based on 300,000 gallons from the backwashing operation.

Groundwater Monitoring and Compliance Plan

In addition to the water quality monitoring and testing conducted by LADWP related to the delivery of potable water within its service area, the Proposed Project would provide additional water quality monitoring and compliance actions consisting of a combination of anticipated permit stipulations and LADWP water quality due diligence actions.

The Groundwater Monitoring and Compliance Plan would include the follow components:

1. **The DDW Extremely Impaired Source Water Quality Surveillance Plan** – In accordance with the DDW's Policy Memo 97-005, this plan would be developed and implemented to provide early warning in case unexpectedly high concentrations and/or new contaminants are encountered within the capture zone of the well field. Early warning provides an opportunity to take appropriate actions if required to reduce the risks posed to production wells by unexpected changes in groundwater quality.
2. **Remedial Action Progress Monitoring Plan** - The plan would be implemented to evaluate clean-up progress and demonstrate whether or not the remedial action is successfully containing the identified contamination and whether the Remedial Action Objectives are being achieved.

2.3 Construction

Implementation of the Proposed Project would involve several phases, including design, procurement, construction, and commissioning. It is anticipated that all of these activities would take about 2.5 years to complete, including 12 months for design and procurement, 12 months for construction, and 6 months for commissioning and testing. Active construction of the proposed facilities (i.e., site preparation and grading; piping, conduit, and concrete pad installation; and site structures and equipment installation) would occur over a 12-month period, beginning in mid-2018. The Proposed Project construction activities would generally occur on

weekdays and, in accordance with City ordinances, would be limited to between the hours of 7:00 a.m. and 6:00 p.m. Although not anticipated, if occasional Saturday work were required, in accordance with City ordinances, it would not commence before 8:00 a.m., and it would cease by 6:00 p.m. No construction work would occur on Sundays or national holidays. Access to the site for construction trucks and on-site personnel would be provided via the two existing LADWP access drives. All construction would be staged from the Proposed Project site. The four construction phases are described below.

Site Preparation. During this phase, the site would be prepared for installation of the water treatment equipment by removing several on-site trees and shrubs; stripping, stockpiling, spreading, and compacting soil; and excavating to prepare for installation of underground piping and conduit. Stripped soil would be stockpiled and used as backfill or would be spread and compacted on site. Excavation for structures would also occur during this phase, consisting of excavation, loading and hauling of materials, fine grading in preparation for slab-on-grade installation, and soil compaction. Site preparation would require an average of six on-site personnel per day and an average of three truck round-trips per day. It would involve the use of multiple types of construction equipment, including loaders, dozers, dump trucks, and soil compaction equipment. A complete list of equipment involved in this phase is included in Appendix A. Site preparation is anticipated to take 1 month to complete.

Piping, Conduit, and Concrete Pad Installation. The Proposed Project would involve installation of 2,000 linear feet of 24-inch-diameter steel piping and 1,000 linear feet of 6-inch-diameter electrical conduit. Piping and conduit would be placed primarily underground. Once the underground piping and conduit are installed, the soil would be backfilled and compacted. During this phase, concrete pad placement would also occur. This phase would require an average of 6 to 20 on-site personnel per day (an average of 20 on-site personnel would be required for installation of piping and conduit, while an average of 6 on-site personnel would be required for concrete placement). It would also require between one and five truck round-trips per day. A dozer, concrete pump, truck crane, and soil compaction equipment would be required for this phase. Installation of piping, conduit, and concrete is anticipated to take 4 months to complete.

Equipment Installation. Once the site has been cleared, concrete pads have been constructed, and piping and conduit installed, the water treatment equipment would be delivered to the site and put in place. This phase would require an average of six on-site personnel per day and approximately one truck round-trip per day. Equipment would be installed using a lattice boom crane. Installation of equipment is anticipated to take 2 months to complete.

Structures. During this phase, roof framing would be installed on the peroxide storage facility, and the UV building would be constructed around the UV reactors. The UV building would be made of galvanized steel. Materials would consist of 500 linear feet of steel roof framing, 500

linear feet of minor framing, and approximately 3,000 square feet of galvanized steel building material. Erecting the structures would require an average of four on-site personnel per day and approximately one truck round-trip per day. Equipment operation during this phase would be minimal. This phase is anticipated to take 5 months to complete.

Throughout much of the construction process, minimal on-site equipment and personnel would be required. During the majority of the construction months, six on-site workers or fewer would be present. Other than the truck trips required to deliver materials and equipment, all construction activities would be confined to the Proposed Project site. Use of hazardous materials during construction would consist only of typical vehicle fuels and lubricants.

Before formal delivery of water to the potable system can begin, the facility would go through a testing and commissioning phase. Commissioning of the water treatment equipment, consisting primarily testing equipment and insuring proper function, production, and water quality, would require about 6 months to complete. This is an interim phase between construction and operations. During this period, only a few on-site personnel would be required, and no active construction would occur.

2.4 Operation

Operation of the Proposed Project would require minimal maintenance activities and minimal on-site personnel. Once per month, the hydrogen peroxide storage tank would be refilled. This would involve one truck round-trip per month and would require two personnel. Hydrogen peroxide would be transferred from the truck to the on-site storage tank. The lamps in the UV reactors would be replaced every 12,000 hours. Assuming that all lamps in the 10 main reactors are running continuously, the lamps would be changed about every 16 months. Lamp replacement would involve one truck round-trip per day and would require two personnel. The lamps contain mercury, which would require recycling and/or proper disposal in approved landfill. The GAC would be replaced once every 5 years. During the GAC replacement process, the GAC material would be removed from the vessels and transported to a landfill. This would involve three workers and 24 truck trips over a period of 36 days. No air emissions would be expelled from any of the treatment equipment during operation.

The Proposed Project would be operated to meet all requirements established through the NCP process, DDW permitting process, and in accordance with applicable public health standards associated with the delivery of potable water.

2.5 Required Permits and Approvals

LADWP is the lead agency for the Proposed Project pursuant to CEQA Guidelines Section 15367. The Proposed Project would require the following discretionary approvals from LADWP:

- Adoption of this MND by the City of Los Angeles Board of Water and Power Commissioners with a finding that it complies with CEQA.
- Approval of the Preferred Alternative/Proposed Plan identified in the RI/FS Report for NHW, as determined through and consistent with the NCP.

Approvals from other regulatory agencies may also be required as follows:

- State Water Resources Control Board, Division of Drinking Water (DDW) – Amendment of the existing Domestic Water Supply Permit for operation of new treatment facilities and update of the May 2014 "Ground Water Rule Disinfection Monitoring Plan."
- State Water Resources Control Board (SWRCB) – Approval of partial funding from public sources, such as the State Revolving Fund and Prop. 1 Fund
- SWRCB – LADWP must submit a Notice of Intent and Stormwater Pollution Prevention Plan to the State Water Board to comply with the General Construction Activity National Pollutant Discharge Elimination System Permit.

2.6 References

California Regional Water Quality Control Board, Los Angeles Region. 2015. *Cleanup and Abatement Order NO. R4-2015-0147, Hewitt Pit Landfill*. September 15, 2015. http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/5024205088/SCP%201318_Hewitt_Final%20CAO_090815.pdf

City of Los Angeles. 2015a. Parcel Profile Report. Created July 21, 2015. http://navigatela.lacity.org/navigatela/.

City of Los Angeles. 2015b. Building Footprints Layer. Accessed July 21, 2015. http://navigatela.lacity.org/navigatela/.

LADWP (Los Angeles Department of Water and Power). 2016. *2015 Urban Water Management Plan*. Adopted June 7, 2016.

LADWP. 2016a. Remedial Investigation/Feasibility Study Report, North Hollywood West Well Field.

State Water Resources Control Board. 2014. *Groundwater Information Sheet, 1,4-Dioxane*. Division of Water Quality, GAMA Program. May 2014. www.waterboards.ca.gov/gama/docs/coc_1_4_dioxane.pdf.

U.S. EPA (United States Environmental Protection Agency). 1987. "San Fernando Valley (Area 1) Record of Decision, North Hollywood Operable Unit." September 24, 1987.

U.S. EPA. 1989. "San Fernando Valley (Area 1) Record of Decision, Burbank Operable Unit." July 26, 1989.

U.S. EPA. 1993. "San Fernando Valley (Area 2) Record of Decision, Glendale North Operable Unit." June 18, 1993.

U.S. EPA. 2004. "San Fernando Valley (Area 3) Record of Decision, Verdugo Study Area." February 2004.

U.S. EPA. 2006. *Treatment Technologies for 1,4-Dioxane: Fundamentals and Field Applications*. EPA-542-R-06-009. December 2006.

U.S. EPA. 2009. "San Fernando Valley (Area 1) Interim Action Record of Decision, North Hollywood Operable Unit." September 30.

U.S. EPA. 2011. "1,4-Dioxane/Ultraviolet Irradiation + Hydrogen Peroxide." June 2011. Accessed September 2, 2015. http://iaspub.epa.gov/tdb/pages/contaminantProcess/contaminantProcessOverview.do.

U.S. EPA. 2014a. *San Fernando Valley (Area 1) Amendment to the 2009 Interim Action Record of Decision, North Hollywood Operable Unit*. January 10, 2014.

U.S. EPA. 2014b. *Technical Fact Sheet – 1,4-Dioxane*, EPA 505-F-14-011. January 2014.

U.S. EPA. 2016. *Special Notice Letter for North Hollywood Operable Unit of the San Fernando Valley, Area 1. July 18, 2016,* http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/2860367298/Special%20Notice%20Letter%20for%20NHOU.pdf

3 INITIAL STUDY CHECKLIST

The following discussion of potential environmental effects was completed in accordance with Section 15063(d)(3) of the CEQA Guidelines (2016) to determine if the Proposed Project may have a significant effect on the environment.

1. Project title:

North Hollywood West Well Field Water Treatment Project

2. Lead agency name and address:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012

3. Contact person and phone number:

Nadia Parker
Environmental Planning and Assessment
Los Angeles Department of Water and Power
(213) 367-1745

4. Project location:

12403 Vanowen Street
Los Angeles, California 91605

5. Project sponsor's name and address:

Los Angeles Department of Water and Power
111 North Hope Street
Los Angeles, California 90012

6. City Council District:

District 2

7. Neighborhood Council District

North Hollywood North East Neighborhood Council

8. General plan designation:

Open Space

9. Zoning:

OS-1XL (Open Space)

10. Description of Project:

Refer to Section 2 of this MND

11. Surrounding land uses and setting:

Refer to Section 2.1 of this MND

10. Other public agencies whose approval is required:

Refer to Section 2.5 of this MND

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Proposed Project, involving at least one impact that is "Potentially Significant" or "Potentially Significant Unless Mitigation Incorporated" as indicated by the checklists on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ 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 and Traffic	☒ Tribal Cultural Resources	☐ Utilities and Service Systems
☒ 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 Proposed 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Nadia Parker — Signature

11-28-16 — Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 Aesthetics

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) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Would the Project have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas generally refer to views of expansive open space areas or other natural features, such as mountains, undeveloped hillsides, large natural water bodies, or coastlines. Less commonly, certain urban settings or features, such as a striking or renowned skyline, may also represent a scenic vista. Under CEQA, scenic vistas also generally, although not exclusively, refer to views that are accessible to broader segments of the public, rather than those available to a limited number of private entities. The North Hollywood–Valley Village Community Plan does not designate any scenic vistas or other visual resources in the Community Plan area (City of Los Angeles 1996). The Proposed Project would be located within a site that is owned and operated by LADWP and that is currently used for groundwater pumping, water treatment, and water distribution purposes. This Proposed Project site (or "site") does not contain any scenic resources, and there are no scenic resources in the vicinity of the site. Six key observation points (lettered A through F) were chosen surrounding the Project site and within the Project site. Photos were taken from these points to show representative views of the site. Figure 3.1-1 shows the locations of these key observation points. Figures 3.1-2, 3.1-3, and 3.1-4 provide photos taken from these locations, showing views of and through the facilities site. On a clear day, the San Gabriel Mountains may be visible to northbound travelers along Whitsett Avenue and SR-170 adjacent to the Project site. For southbound travelers along Whitsett Avenue and SR-170 adjacent to the Project site, the low-lying Hollywood Hills may be observable to the south. However, these distant scenic resources cannot be clearly seen through or across the Project site (refer to Figure 3.1-2, Photos A and B, which show views looking north and south through the facilities site). As shown in Figure 3.1-2, distant scenic resources such as the Hollywood Hills and the San Gabriel Mountains are not visible from or through the facilities site. As such, the placement of the proposed water remediation equipment on the site would not obstruct or affect any potential scenic vistas, and no impact would occur to scenic vistas as a result of the Proposed Project.

SOURCE: Bing Maps, 2015

FIGURE 3.1-1

Key Observation Points

North Hollywood West Well Field Water Treatment Project

Photo A
Looking South from Whitsett Fields toward the Northern Boundary of the Facilities Site

Photo B
Looking North from Whitsett Fields toward the Southern Boundary of the Facilities Site

FIGURE 3.1-2
Existing Site Photos A and B

North Hollywood West Well Field Water Treatment Project

Photo C
Looking East across the Facilities Site toward Wellhead NH-34 and Well Control House

Photo D
View of Northeast Corner of the Facilities Site, Looking East from the Treatment Site toward SR-170

FIGURE 3.1-3

Existing Site Photos C and D

North Hollywood West Well Field Water Treatment Project

Photo E
Looking Northeast from Vanowen Street toward the Access Road Entrance, Surge Chamber and Chlorination Station Buildings, and Facilities Site

Photo F
Looking East from Whitsett Fields toward the Western Boundary of the Facilities Site

FIGURE 3.1-4

Existing Site Photos E and F

North Hollywood West Well Field Water Treatment Project

b) Would the Project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The nearest officially designated State Scenic Highway is a portion of State Highway 2 that extends through the San Gabriel Mountains, beginning just north of the City of La Cañada Flintridge (Caltrans 2011). The portion of State Highway 2 that is officially designated as a State Scenic Highway is located approximately 12 miles northwest of the Proposed Project site. Due to this distance, the Proposed Project site is not within the viewshed of this State Scenic Highway. Therefore, no impact on scenic resources within a state scenic highway would occur as a result of the Proposed Project.

c) Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. Under current conditions, the Proposed Project site contains a variety of groundwater infrastructure, unkempt landscaping, pipe storage, and vacant patches of dirt. The site generally has an industrial appearance (see Figure 3.1-3, Photos C and D). Views of the Proposed Project site from the surrounding streets and sports fields are generally screened by vegetation and/or diminished by distance from the site. The key visual changes to the site that would occur upon Project implementation are the removal of some trees from within the site boundary and the installation of water treatment facilities within the site. Changes in the appearance of the site as observed from the north, east, south, and west are described in the paragraphs below.

From the north, the site is observable from sports fields. This view is shown in Figure 3.1-2, Photo A. There are numerous ornamental trees outside the site fence line along the northern site boundary that would remain in place and would generally obstruct views of the new equipment. It is expected that glimpses of the proposed facilities through the trees would be seen by users of the sports fields. However, as shown in Photo A, views of the facilities site would not be prominent from these sports fields.

From the east, fleeting views of the site are available from SR-170. To travelers along this highway, the site appears briefly as an industrialized portion of the park. While some of the proposed facilities may be visible from SR-170, views would be fleeting, and the site would continue to appear as an industrialized portion of the park after Project implementation.

From the south, distant views of the site are available from Vanowen Street (see Figure 3.1-4, Photo E). However, due to distance and the intervening landscaping and structures the new facilities would not be highly visible and would not change the character of the site as observed from Vanowen Street. From the sports fields adjacent to the southern

boundary of the facilities site, the UV building and sand filter would both be clearly observable (see Figure 3.1-2, Photo B, which shows this view under existing conditions). However, the presence of the new equipment would not substantially degrade the character of the site, as the site already contains groundwater pumping equipment and has an industrial appearance.

From the west, the site is visible from adjacent sports fields and Whitsett Avenue (see Figure 3.1-4, Photo F). Some of the proposed facilities, particularly the LPGAC vessels, would be visible. Several ornamental trees outside of the Proposed Project site fence line, as shown in Photo F, would remain in place under the Proposed Project and would partially shield the equipment from views observed from the west. The presence of the new equipment would not substantially degrade the character of the site, as the site already contains groundwater pumping equipment and has an industrial appearance.

In summary, while portions of the proposed facilities would be visible from surrounding public areas and would therefore change the appearance of the site, the equipment would be partially screened by existing vegetation and structures and would be consistent with the existing appearance of the site as an area used for utility purposes. For these reasons, the existing visual character of the site would not be substantially degraded by the Proposed Project. Impacts from the Proposed Project to visual character and quality 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?

Less Than Significant Impact. Lighting levels on the Proposed Project site would not be substantially altered by the Proposed Project. The Proposed Project would not require substantial nighttime lighting, although it is expected that directed facility security lighting would be provided. Light produced in the UV reactors occurs within the UV reactor structure, and would not be visible externally.

The proposed equipment would consist of a variety of building materials ranging from non-reflective surfaces to surfaces that may result in a limited source of glare (i.e., galvanized steel). However, none of the new equipment is expected to generate a continuous, significant source of glare. The site is generally surrounded by vegetation, which would diffuse any intermittent or transient reflections or glare. Furthermore, the site is separated from residences by recreational fields. As such, both lighting and glare impacts from the Proposed Project would be less than significant.

References

Caltrans (California Department of Transportation). 2011. California Scenic Highway Mapping System. Last updated September 7, 2011. Accessed August 26, 2015. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

City of Los Angeles. 1996. *North Hollywood – Valley Village Community Plan*. Updated May 14, 1996. Accessed September 11, 2015. http://planning.lacity.org/complan/valley/nhlpage.htm.

3.2 Agriculture and Forestry 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?	☐	☐	☐	☒

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. The Proposed Project would be located on a site that is currently owned and operated by LADWP for groundwater pumping, water treatment, and water distribution purposes. The Proposed Project site is not designated as Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program (California Department of

Conservation 2015a). As such, the Proposed Project would not convert Farmland to a non-agricultural use, and no impact would occur.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project site is zoned Open Space and is not subject to a Williamson Act contract (California Department of Conservation 2015b). The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

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

No Impact. No forest land, timberland, or Timberland Production areas (as defined in California Public Resources Code, Sections 12220(g), 4526, and 51104(g)) are located within or adjacent to the Project site. Therefore, the Proposed Project would not conflict with existing zoning for forest land, timberland, or Timberland Production areas, and no impact would occur.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in Section 3.2(c), no forest land is located on the Project site; no forest land would be lost or converted by the Proposed Project, and no impact would occur.

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. The Project site is bordered to the north, west, and south by recreational facilities and to the east by the SR-170. The Project vicinity is highly urbanized. No Farmland or forest land exists in the vicinity of the Project site. As such, the Proposed Project would not result in changes to the existing environment that could result in conversion of Farmland or forest land to non-agricultural or non-forest uses. No impact would occur.

References

California Department of Conservation. 2015a. *Los Angeles County Important Farmland 2012*. [map]. 1:120,000. Sacramento, CA: Farmland Mapping and Monitoring Program. January 2015. Accessed August 26, 2015. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/.

California Department of Conservation. 2015b. *State of California Williamson Act Contract Land.* [map]: 1:3,520,000. Sacramento, CA: California Department of Conservation, Division of Land Resource Protection. Published 2015. Data submissions current to 2014. Accessed September 30, 2015. http://www.consrv.ca.gov/dlrp/lca/Pages/Index.aspx.

3.3 Air Quality

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) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

The air quality analysis in this section is supported by Appendices A and B. Appendix A provides an estimate of equipment use and operating assumptions for the construction and operations emissions analyses. Appendix B provides background information on the regulatory setting for air quality applicable to the Proposed Project and contains the California Emissions Estimator Model (CalEEMod) air pollution modeling outputs.

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

Less Than Significant Impact. The Project site is located within the South Coast Air Basin (SCAB) and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD). The SCAQMD administers the Air Quality Management Plan (AQMP) for the SCAB, which is a comprehensive document outlining an air pollution control program for attaining California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The latest version of the SCAQMD's AQMP is the Final 2012 AQMP (SCAQMD 2013), which was adopted by SCAQMD in December 2012 and finalized in February 2013. The 2012 Final AQMP is designed to meet applicable federal and state requirements for ozone (O_3) and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns (fine particulate matter; $PM_{2.5}$). The Final 2012 AQMP demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the SCAB through adoption of all feasible measures. The 2012 AQMP also updates the U.S. EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act Section 182(e)(5) long-term measures for oxides of nitrogen (NO_x) and VOC reductions. (The SCAQMD is currently in the process of revising the AQMP to incorporate the latest growth and planning assumptions, updated emissions inventories, and current Southern California Association of Governments [SCAG] Regional Transportation Plan/Sustainable Communities Strategy.)

In general, projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) were developed by the SCAG for its 2012 Regional Transportation Plan/ Sustainable Communities Strategy based on general plans for cities and counties in the SCAB. The 2012 AQMP relies on the land use and population projections provided in SCAG 2012 Regional Growth Forecast, which is generally consistent with the local plans; therefore, the 2012 AQMP is generally consistent with local government plans.

There are two key indicators of consistency with the AQMP:

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP; and

- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

The Proposed Project consists of a response action to address the presence and/or threat of 1,4-dioxane contamination in NHW wells. The response action does not expand water entitlements above existing levels. Accordingly, the Proposed Project would not result in population growth or additional employment and would not exceed the assumptions in the 2012 AQMP or conflict with the AQMP.

To address the criterion regarding the Proposed Project's potential to result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP, an air quality modeling analysis that identified the Project's impact on air quality was performed. Results of this analysis are included in Section 3.3(b) and Appendix B. CalEEMod, Version 2013.2.2 was used to model emissions for the Proposed Project.

The SCAB is a nonattainment area for O_3, particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter; PM_{10}), and $PM_{2.5}$ under the NAAQS and/or CAAQS. (It is important to note that O_3 is not emitted directly into the atmosphere but results from photochemical reactions between oxides of nitrogen [NO_x] and volatile organic compounds [VOCs] in the presence of sunlight. Therefore, relative to O_3, it is emissions of NO_x and VOCs that must be addressed.) However, as discussed in Section 3.3(b), the Proposed Project would not result in a net increase of VOCs, NO_x, PM_{10}, or $PM_{2.5}$ emissions that would exceed the SCAQMD thresholds; therefore, the Proposed Project would not contribute to the frequency or severity of existing air quality violations or delay timely attainment of the ambient air quality standards or interim emission reductions in the 2012 AQMP.

Therefore, impacts relating to the Proposed Project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

b) Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. Analysis was conducted to determine whether construction and operation of the Proposed Project may result in emission of criteria air pollutants that may cause exceedances of federal and state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short- and long-term impacts that would result from implementation of the Proposed Project and concludes that impacts would be less than significant.

The City of Los Angeles has not adopted Citywide significance thresholds for air quality impacts, but rather references the SCAQMD thresholds and guidance based on the SCAQMD's regulatory role in the SCAB (City of Los Angeles 2006). Construction of the Proposed Project would result in emissions of criteria air pollutants for which the U.S. EPA and the California Air Resources Board (CARB) have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). Projects that emit criteria pollutants have the potential to cause or contribute to violations of these standards. The SCAQMD CEQA Air Quality Handbook, as revised in March 2015, sets forth quantitative emission significance thresholds for criteria air pollutants, which, if exceeded, would indicate the potential for a project to contribute to violations of the NAAQS or CAAQS. The SCAQMD criteria pollutant mass daily thresholds were used to determine the potential significance of Project-generated construction and operational emissions and are included in Tables 3.3.1 and 3.3.2, respectively.

Construction Emissions

Construction of the Project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling debris and delivering materials and from construction workers traveling to and from the site. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. Therefore, an increment of day-to-day variability exists.

Pollutant emissions associated with construction activity were quantified using CalEEMod. For criteria pollutant emissions, a worst-case day scenario was developed, with a detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—contained in the CalEEMod outputs, as provided in Appendix B.

Implementation of the Proposed Project would generate construction-related air pollutant emissions from entrained dust and equipment and vehicle exhaust emissions. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Project would be required to comply with SCAQMD Rule 403 to control dust emissions. Standard construction practices required under Rule 403 would be employed to reduce fugitive dust emissions, including watering of the active sites approximately three times daily depending on weather conditions. Internal combustion engines on construction equipment and haul trucks, vendor trucks, and worker vehicles would result in emissions of VOCs, NO_x, carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. Active construction of the Proposed Project would take approximately 12 months to complete, beginning in mid-2018. The analysis

contained herein is based on the following construction assumptions (the duration of phases is approximate; the days indicated represent actual work days per phase rather than calendar duration of the phase, assuming an average of 20 work days per month):

- Site preparation: 20 days
- Piping, conduit, and concrete installation: 80 days
- Equipment installation: 20 days
- Structures: 100 days

For this analysis, it was assumed that heavy construction equipment would be used 5 days a week. To estimate motor vehicle emissions generated by worker vehicles (i.e., light-duty trucks and automobiles), it was assumed that each worker would generate two one-way trips. In addition to construction equipment operation and worker trips, emissions from hauling (i.e., dump trucks) and vendor trucks (i.e., delivery trucks) were estimated. Trucks hauling debris off site were assumed to travel 20 miles (CalEEMod default) one-way to an appropriately permitted landfill. Haul truck trips were assumed to be required primarily during the site preparation phase. Vendor trucks transporting concrete, steel, and other building materials were assumed during each phase based on the construction information provided in Appendix A. Detailed construction assumptions to derive the worst-case daily emissions, considering number and types of equipment, estimated daily worker and vendor trips and total estimated haul truck trips, are provided in CalEEMod outputs in Appendix B.

Table 3.3-1 presents the estimated maximum unmitigated daily emissions generated during construction of the Proposed Project. The values shown are the maximum summer or winter daily emissions results from CalEEMod outputs included in Appendix B.

Table 3.3-1
Estimated Maximum Daily Construction Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2018-2019	3.3	37.3	17.0	0.0	8.0	5.0
SCAQMD construction emission threshold	**75**	**100**	**550**	**150**	**150**	**55**
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B for detailed results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates do not reflect control of fugitive dust required by Rule 403.

As shown in Table 3.3-1, the Proposed Project's daily construction emissions would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction. Therefore, construction impacts of the Proposed Project would be less than significant, and no mitigation measure is required.

In addition, the Project must adhere to SCAQMD Rules during construction-related activities: 401 (Visible Emissions), 403 (Fugitive Dust), and 431.2 (Sulfur Content of Liquid Fuels). These measures, which were not included in the quantitative model but with which the Proposed Project must comply, would further assist in minimizing Project-generated fugitive dust emissions and combustion pollutants to less than significant.

Operational Emissions

Following the completion of construction activities, the Proposed Project would only generate criteria pollutant emissions associated with routine operation, maintenance and inspection of the treatment equipment. These activities would consist of refilling of the hydrogen peroxide tank (once per month), replacement of the UV lamps (once every 16 months), and GAC replacement (once every 5 years). In addition, operational power requirements would be met by electrical energy. It is estimated that operational electrical power demand would be approximately 21.98 gigawatt-hours/year. Because power is provided over an integrated electricity grid, indirect emissions from the generation of electricity could occur at any of the fossil-fueled power plants in California or neighboring states, or from hydroelectric or nuclear plants or renewable energy sources. Since electricity generation typically takes place at power generation facilities off site, indirect criteria pollutant emissions associated with electricity generation are not included in the analysis (CAPCOA 2013). However, the emissions associated with electricity production would be less than significant for several reasons. According to the 2015 Power Integrated Resource Plan (LADWP 2015), LADWP sources approximately 40% of its electrical capability from out-of-state electricity generators and another approximately 2% from areas within the state but out of the SCAB. Based on the proportion of energy generated by LADWP within the SCAB that would potentially be used for the Project and would contribute to local air emissions, as well as the increasing use of renewables in the LADWP portfolio, emissions due to the Project would be well below the daily emissions significance thresholds. Also, the Project is not growth inducing, and the power needs would, therefore, be met from generation sources which are already permitted or are in the regulatory permit process, and have already been counted from a regional air pollution perspective.

For the worst-case maintenance and operations air pollutant scenario, it was assumed that all activities would overlap during the first round of GAC replacement. Detailed

assumptions, including number and types of equipment, estimated daily worker trips, and total estimated haul truck trips, are provided in Appendix B.

Table 3.3-2 summarizes the daily emissions of criteria pollutants that will be generated by intermittent maintenance of the Proposed Project and compares these emissions to the SCAQMD thresholds of significance. The values shown are the maximum summer or winter daily emissions (i.e., foreseeable worst-case) results from CalEEMod and are included in Appendix B.

Table 3.3-2
Estimated Maximum Daily Operational Emissions

Activities	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	pounds per day					
GAC Replacement, UV Lamp Replacement, and Hydrogen Peroxide Tank Refill	0.5	5.1	3.6	0.0	0.5	0.3
SCAQMD operational emission threshold	**55**	**55**	**550**	**150**	**150**	**55**
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B for detailed results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 3.3-2, the increase in emissions associated with routine maintenance and operation of the Proposed Project would not exceed the SCAQMD thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Therefore, impacts would be less than significant for Project operational emissions.

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

Less Than Significant Impact. In considering cumulative impacts from the Proposed Project, a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the NAAQS or CAAQS. A project would be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact). If a project's emissions would exceed the SCAQMD significance thresholds, it would be

considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality. In this case, the basis for analyzing the Proposed Project's cumulatively considerable contribution is the Project's potential to exceed SCAQMD thresholds and its consistency with the adopted AQMP.

The SCAB is a nonattainment area for O_3, PM_{10} (although an attainment designation is currently under review), and $PM_{2.5}$ under the NAAQS and/or CAAQS. The nonattainment status in the SCAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (e.g., VOC and NO_x for O_3) potentially contribute to poor air quality.

Implementation of the Proposed Project would generate emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ associated with construction and routine inspection and maintenance operations. However, as indicated in Tables 3.3-1 and 3.3-2, short-term construction emissions and the long-term operational increase in emissions associated with the Proposed Project would not exceed SCAQMD significance thresholds. Furthermore, as discussed in Section 3.3(a), the Proposed Project would not conflict with the SCAQMD 2012 AQMP, which addresses the cumulative emissions in the SCAB. Accordingly, the Proposed Project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants or their precursors (e.g., VOC and NO_x for O_3). Thus, this impact would be less than significant.

d) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Localized Project impacts associated with construction and operational emissions of criteria pollutants and toxic air contaminants (TACs) are assessed in this section.

Localized Significance Threshold Analysis

Sensitive receptors that would potentially be affected by construction activity in the Proposed Project area are multi-family residences located approximately 300 feet west of the proposed construction area, across Whitsett Avenue. The SCAQMD localized

significance threshold (LST) values for a 1-acre site[1] within Source-Receptor Area 2 (the analysis used a receptor distance of about 300 feet). Construction activities associated with the Proposed Project would result in temporary sources of on-site fugitive dust and construction equipment emissions. Off-site emissions from haul trucks, vendor trucks, and worker vehicle trips are not included in the LST analysis because these emissions will not occur within this receptor distance. The maximum daily on-site construction emissions generated during construction of the Proposed Project, which are rounded to the nearest whole number, are presented in Table 3.3-3 and compared to the SCAQMD localized significance criteria for Source-Receptor Area 2 to determine whether Project-generated on-site construction emissions would result in potential LST impacts.

Table 3.3-3
Construction Localized Significance Thresholds Analysis

Pollutant	Project Construction (pounds per day)	LST Criteria (pounds per day)	Exceeds LST?
NO_2	35.8	116	No
CO	15.0	1,105	No
PM_{10}	7.8	22	No
$PM_{2.5}$	4.9	7	No

Source: SCAQMD 2008.
Notes: LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Maximum on-site emissions were estimated for the Site Preparation phase in the year 2018.

As shown in Table 3.3-3, proposed construction activities would not generate emissions in excess of site-specific LSTs; therefore, site-specific Project construction impacts would be less than significant. In addition, the Project must adhere to SCAQMD Rules during construction-related activities, such as Rule 403 (Fugitive Dust), which were not included in the above quantitative model and would further reduce Project-generated fugitive dust emissions and combustion pollutants.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological

[1] Per SCAQMD *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (SCAQMD 2014), the maximum daily disturbed acreage was determined based on the potential area of disturbance from specified equipment (one grader and one dozer at 0.5 acres disturbed each = 1 acres total). Thus, the 1-acre LST was used in this analysis.

conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, schoolchildren, hospital patients, and the elderly. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS). An LOS of E (on a scale of A [best] to F [worst]) or worse is unacceptable. Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

In general, the SCAQMD recommends that a quantitative CO hotspots analysis be performed for any intersections where the LOS worsens from C to D (or worse), or for intersections rated LOS D or worse that experience an increase in volume-to-capacity ratio of 2% or more as a result of a project. The Proposed Project would generate minimal on-road vehicle trips during construction and routine maintenance operations (i.e., Project-related trip generation is below the threshold for detailed traffic analysis). Accordingly, the Proposed Project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing. Based on these considerations, the Proposed Project would result in a less than significant impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

TACs are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. The nearest sensitive receptors to the Proposed Project are multi-family residences located along Whitsett Avenue, approximately 300 feet from the proposed construction area. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD identifies an incremental cancer risk threshold of 10 in 1 million. Incremental cancer risk is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology. In addition, some TACs have non-carcinogenic effects. The SCAQMD identifies a Hazard Index of 1 or more for acute

(short-term) and chronic (long-term) effects.[2] TACs that would potentially be emitted during construction activities associated with development of the Proposed Project would be diesel particulate matter.

Diesel particulate matter emissions would be emitted from heavy equipment operations and heavy-duty trucks. Heavy-duty construction equipment is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions. The Proposed Project would not require the extensive use of diesel equipment, nor would the Project involve extensive use of diesel trucks. As described for the LST analysis, PM_{10} (representative of diesel particulate matter) exposure would be minimal. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. The construction period for the Proposed Project would total approximately 1 year, after which construction-related TAC emissions would cease. The 1-year construction duration represents about 3% of the total 30-year exposure period. Due to this relatively short period of exposure and minimal particulate emissions on site, TACs generated during construction would not result in concentrations causing significant health risks.

Operation of the Proposed Project would not result in any non-permitted direct air emissions (e.g., those from a point source such as diesel generators) or result in a substantial increase in diesel vehicles (i.e., delivery trucks) over existing baseline conditions. Typical maintenance operations would require minimal on-road vehicle and off-road equipment use, including one delivery truck per month for hydrogen peroxide replacement, one delivery truck every 16 months for lamp replacement, and one crane on site plus three delivery trucks per GAC vessel maintenance every 5 years. Although the Project site is located within a Freeway Adjacent Advisory Notice zone, it would not introduce sensitive receptors into the area that could be exposed to existing elevated levels of diesel particulate matter.

Overall, the Proposed Project would not result in substantial diesel emissions TAC exposure to sensitive receptors in the vicinity of the Proposed Project, and impacts would be less than significant.

[2] Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various non-carcinogens from the project to published reference exposure levels that can cause adverse health effects.

Health Impacts of Criteria Air Pollutants

Construction of the Proposed Project would generate criteria air pollutant emissions; however, the Proposed Project would not exceed the SCAQMD mass-emission thresholds. VOCs and NO_x are precursors to O_3, for which the SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. The health effects associated with O_3 are generally associated with reduced lung function. Because the Proposed Project involves construction and operational activities that would not result in VOC or NO_x emissions that would exceed the SCAQMD thresholds, the Proposed Project would not substantially contribute to regional O_3 concentrations and the associated health impacts.

In addition to O_3, NO_x contributes to potential exceedances of the NAAQS and CAAQS for NO_2. The existing ambient NO_2 concentrations in the SCAB are below the NAAQS and CAAQS. Thus, Proposed Project construction and operations would not result in exceedances of the NO_2 standards or contribute to the associated health effects, which are primarily associated with respiratory irritation.

CO tends to be a localized impact associated with congested intersections. The associated CO hotspots were discussed previously as a less-than-significant impact. Thus, the Proposed Project's CO emissions would not contribute to the health effects associated with this pollutant.

According to U.S. EPA, particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particulate matter exposure to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing (U.S. EPA 2016). As with O_3 and NO_x, the Proposed Project would not generate emissions of PM_{10} and $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the Proposed Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for this pollutant.

In summary, the Proposed Project would not result in a potentially significant contribution to regional concentrations of non-attainment air pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Accordingly, any potential impacts associated with those pollutants would be less than significant.

e) Would the Project create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Although offensive odors seldom cause physical harm, they can be annoying and cause concern. Construction and operation of the Proposed Project would not create objectionable odors affecting a substantial number of people.

Some odors would be generated from vehicles and equipment exhaust emissions during construction of the Proposed Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors would be temporary, dissipate rapidly, and generally would occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations typically associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As a groundwater treatment facility, the Proposed Project would not result in the creation of a use that is associated with odors. Therefore, Project operations would result in an odor impact that would be less than significant.

References

CAPCOA (California Air Pollution Control Officers Association). 2013. *California Emissions Estimator Model – Appendix A Calculation Details for CalEEMod.* July 2013.

City of Los Angeles. 2006. *LA CEQA Thresholds Guide*. City of Los Angeles. http://environmentla.com/programs/table_of_contents.htm.

SCAQMD (South Coast Air Quality Management District). 2008. *Final Localized Significance Threshold Methodology*. Revised July 2008.

SCAQMD. 2013. *Final 2012 Air Quality Management Plan*. Revised February 2013.

SCAQMD. 2014. *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. Website last updated in 2014. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2.

SCAQMD. 2015. *SCAQMD Air Quality Significance Thresholds*. March 2015. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.

SCAQMD. 2016. *National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin*. February 2016. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2.

U.S. EPA (U.S. Environmental Protection Agency). 2016. "Criteria Air Pollutants." Last updated March 4, 2016. https://www.epa.gov/criteria-air-pollutants.

3.4 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (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?	☐	☐	☐	☒

A biological resources report was prepared for the Proposed Project to describe potential effects that could occur to biological resources as a result of the Proposed Project. The report is included in this MND as Appendix C. Preparation of the report involved a literature review and a site survey. The area that was evaluated for the presence of biological resources and any impacts that may occur includes the Proposed Project site and an area 300 feet from the Proposed Project site. This area is referred to in the discussion below as the "biological resources study area" or "study area."

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

Less Than Significant with Mitigation Incorporated. No special-status plant species have been detected within the biological resources study area (Appendix C). However, the study area contains potentially suitable habitat for two special-status wildlife species: Cooper's hawk (*Accipiter cooperii*) and pallid bat (*Antrozous pallidus*). Cooper's hawk is a California Department of Fish and Wildlife (CDFW) Watch List species. This species is becoming more common in urban areas and could potentially forage over the study area. Additionally, there are trees within and adjacent to the Proposed Project site that could be used for nesting by this species. Pallid bat is a CDFW Species of Special Concern. Pallid bat has the potential to occasionally forage over the Proposed Project site's disturbed habitat and may find suitable roosting habitat in adjacent buildings. Neither Cooper's hawk nor pallid bat were observed during the biological resources site survey, and evidence of bats (guano and/or roosts) was not identified within the Proposed Project site. However, in the event that such species were to nest or roost within the study area, construction would have the potential to affect these species, since it would result in increased noise and activity at the Proposed Project site for approximately 1 year. This construction activity at the site (including the removal of some trees) could potentially disrupt the foraging, nesting, and/or reproductive activities of Cooper's hawk or pallid bat, in the event that any of these species are present in the study area. Mitigation measures (MM) BIO-1 and MM-BIO-2 are set forth to ensure that Cooper's hawk or pallid bat would not be disturbed or otherwise affected during the construction process. Impacts would therefore be less than significant with mitigation incorporated.

During operation of the Proposed Project, the new water treatment equipment would not produce significant noise or human activity such that Cooper's hawk or pallid bat would be significantly affected. The site is already used for groundwater pumping, water treatment, and water distribution purposes. While some new operational maintenance activities would occur as described in Section 2.4 of this MND, these activities would be infrequent and temporary. Otherwise, operation of equipment on the site is automated and

would primarily generate noise levels lower than ambient noise conditions (site noise levels are dominated by the adjacent SR-170 freeway). Operation of the Proposed Project would not affect Cooper's hawk or pallid bat in the event that either of these species were to be foraging and/or nesting in the study area.

MM-BIO-1 **Birds and Raptors:** If Project construction occurs during the migratory bird nesting season (typically February 15 through August 31), a focused avian nesting survey of the Project site and contiguous habitat area within 300 feet of the site for protected native birds (within 500 feet for raptors) shall be performed by a qualified wildlife biologist 72 hours prior to construction in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703–712) and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the biology of the species (typically 300 feet for passerines and 500 feet for raptor and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing.

MM-BIO-2 **Bats:** Prior to construction, any structures within the Project site shall be examined for bat roosts and sign (i.e., guano). If sign is observed, a bat detection survey shall be required to determine species and additional avoidance and any minimization measures.

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

No Impact. No riparian habitat or other sensitive natural communities have been identified within the study area (Appendix C), therefore, the Proposed Project would not affect any such habitats. No impact would occur.

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

No Impact. No wetlands been identified within the study area (Appendix C). As such, the Proposed Project would not affect federally protected wetlands. No impact would occur.

d) Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation Incorporated. As described under Section 3.4(a), Proposed Project construction would have the potential to affect Cooper's hawk and pallid bat, in the event that such species were to be nesting, foraging, or reproducing within the biological resources study area. Similarly, other birds protected under the Migratory Bird Treaty Act would have the potential to use the trees within the study area for nesting. However, implementation of MM-BIO-1 and MM-BIO-2 would ensure that any nesting birds and roosting bats present during construction are protected and would therefore reduce impacts to nesting birds and roosting bats below a level of significance. The Project site does not contain habitat for migratory fish or other wildlife species other than those discussed under Section 3.4(a), which would be protected upon implementation of MM-BIO-1 and MM-BIO-2.

Regarding wildlife corridors, the biological resources report identified a narrow strip of ornamental vegetation bordering the Proposed Project site to the east, which may be used by local wildlife as a movement corridor. However, the Proposed Project site would continue to be fenced during construction and operation of the Proposed Project, and the ornamental vegetation along the eastern boundary of the Proposed Project (immediately west of SR-170) would not be affected by the Proposed Project activities. Implementation of the Proposed Project would therefore not degrade or change the current local and regional wildlife movement and use in this area. Upon implementation of MM-BIO-1 and MM-BIO-2, any potentially significant impacts to native resident or migratory species or to native wildlife nursery sites would be reduced below a level of significance.

e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant with Mitigation Incorporated. The City of Los Angeles Protected Tree Ordinance, as modified by Ordinance 177404, provides guidelines for the preservation of Southern California native tree species measuring 4 inches or more in cumulative diameter 4.5 feet above the ground level at the base of the tree (City of Los Angeles 2006a, as cited in Appendix C). Trees protected under this ordinance include all oak trees indigenous to California (excluding the scrub oak *Quercus dumosa*), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*). Protected trees as defined in the City of Los Angeles Protected Tree Ordinance do not occur within the Proposed Project site. However, California sycamore trees meeting this definition are

present immediately outside of the Proposed Project site, within the biological resources study area. They are located along the access drive that extends from Vanowen Street to the facilities site, just west of the fence line that separates Whitsett Fields from the LADWP property. Because the California sycamores are located outside of the Proposed Project site, they would not be removed or directly affected by construction or operation of the Proposed Project. However, in the event that proposed activities were to extend within 15 feet from the trunk or 5 feet from the dripline of one or more of these protected trees, potential indirect impacts could occur. Impacts could include disturbance or damage of aboveground tree branches and/or belowground root systems within the dripline from increased vehicle or human activity. Generation of fugitive dust, erosion, and/or release of chemicals (e.g., fuel, oil, lubricants, paints, and release agents) within the dripline of these trees could also damage or compromise their health. However, generation of fugitive dust would be minimized through Project compliance with SCAQMD's Rule 403. Erosion would be minimized through preparation and compliance with a stormwater pollution prevention plan (SWPPP; see Section 3.9 for details). The potential for chemical releases and the effect of such releases, in the unlikely event that they were to occur, would be minimized through compliance with federal, state, and local regulations that govern the use of such materials (see Section 3.8 for details). Additionally, MM-BIO-3 is set forth to further minimize damage to protected trees. Impacts would therefore be less than significant with mitigation incorporated.

MM-BIO-3 City of Los Angeles protected trees include all oak trees indigenous to California (excluding the scrub oak *Quercus dumosa*), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*). LADWP shall ensure that the proposed construction activities shall maintain a distance of 15 feet from the trunk and 5 feet from the dripline of protected trees. However, if construction activities occur within 15 feet of the trunk or 5 feet of the dripline of protected trees, additional reporting and potential permits from the City of Los Angeles Board of Public Works shall be required per the City of Los Angeles Protected Tree Ordinance 177404.

f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The North Hollywood–Valley Village Community Plan does not designate any portions of the Community Plan area as being within a habitat conservation plan (City of Los Angeles 1996). Furthermore, the Project area is not within any of the

regional conservation plans designated by the state (CDFW 2015). Therefore, the Proposed Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.

References

CDFW (California Department of Fish and Wildlife). 2015. *California Regional Conservation Plans* [map]. August 2015. Accessed January 7, 2016. https://www.wildlife.ca.gov/Conservation/Planning/NCCP.

City of Los Angeles. 1996. *North Hollywood – Valley Village Community Plan*. Updated May 14, 1996. Accessed September 11, 2015. http://planning.lacity.org/complan/valley/nhlpage.htm.

3.5 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 as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

A cultural resources report was prepared for the Proposed Project to describe potential effects that could occur to cultural, archaeological, historical, and paleontological resources as a result of the Proposed Project. The report is included in this MND as Appendix D. Preparation of the report involved conducting archival research, contacting culturally affiliated groups, and performing a pedestrian site survey. The area that was evaluated for the presence of archaeological resources and any impacts that may occur includes the approximate 4-acre Project site boundary, referred to as the Area of Potential Effect.

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

No Impact. The Proposed Project would not cause an adverse change in the significance of a historical resource, as no facilities of historic significance would be affected. For the purposes of CEQA, buildings over 45 years of age should be recorded and evaluated for historical significance in order to determine whether or not a project would result in a significant impact to historical resources. The existing building on the Project site was constructed less than 45 years ago (Appendix D). As such, this building is not historic, and the Project would have no impact on historical resources.

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

Less Than Significant with Mitigation Incorporated. Based on the cultural resources records search, site survey, and contacts made to date, no archaeological resources have been identified within the Project site (Appendix D). Although the presence of archaeological resource discoveries during construction is always a possibility, the likelihood in this case is low due to the disturbed nature of the site. However, in the event that an item of potential significance is uncovered during ground-disturbing activities, implementation of MM-CUL-1 would protect the resource(s) and ensure that impacts would be less than significant. Impacts to archaeological resources would be less than significant with mitigation incorporated.

MM-CUL-1 In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Proposed 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 and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under the California Environmental Quality Act, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

c) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. To assess the potential for the Proposed Project site to contain paleontological resources or unique geologic features, an institutional records search was conducted by the Natural History Museum of Los Angeles County and a desktop geological review was conducted by a paleontologist. The Project site is located within sedimentary deposits of the San Fernando Valley. The entire Project site is mapped as surficial Quaternary alluvium, according to published mapping by Dibblee and Ehrenspeck (1991). These Holocene, or Recent, deposits presumably overlie older, Pleistocene, or Ice Age deposits at an unknown depth (McLeod 2016; Dibblee and Ehrenspeck 1991). Past excavation and trenching activities in the area surrounding the Project site have encountered paleontological resources in older Quaternary alluvial deposits. According to the records search results received from the Natural History Museum of Los Angeles County, the closest fossil localities to the Project site within Quaternary alluvial deposits are located east of the Sepulveda Dam Recreation Area, north of the Ventura Freeway (Highway 101), where fossils were encountered at depths of 75 and 100 feet below the ground surface (LACM 3822; McLeod 2016). To the south, fossils have been found at shallower depths (between 14 and 20 feet below ground surface) (LACM 3263 and 6208, respectively; McLeod 2016). Near the intersection of Lankershim Boulevard and Highway 134, fossils were recovered at between 60 and 80 feet below ground surface (LACM 6970; McLeod 2016). No paleontological resources were identified within the Project site as a result of the institutional records search or desktop geological review. The Proposed Project site is located within an area that has been previously developed and is likely underlain by fill materials, at least in part. As such, the Proposed Project site is not anticipated to be underlain by unique geologic features. While the Proposed Project area has been heavily disturbed by urban development over the years, intact paleontological resources may be present below the original layer of fill material. However, ground disturbance attributable to the Proposed Project is not expected to exceed depths of 4 feet. As such, even if resources were to be present beneath the Proposed Project site, it is not anticipated that the Proposed Project would uncover, damage, or otherwise adversely affect these resources. Furthermore, California Public Resources Code [PRC Section 5097.5] prohibits excavation of paleontologically significant materials. The impacts would be less than significant.

d) Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. No human remains are expected to be disturbed within the Project site during construction. In the event that remains are unearthed during

construction, State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 provide guidance with regard to the accidental discovery of human remains. Should remains be unearthed during construction, LADWP would be subject to these requirements by law, reducing any potential impact to less than significant.

References

Dibblee, T.W., and H.E. Ehrenspeck. 1991. Geologic map of the San Fernando and Van Nuys (north 1/2) quadrangles, Los Angeles County, California. Dibblee Geological Foundation, Dibblee Foundation Map DF-33, scale 1:24,000.

McLeod, S.A. 2016. Vertebrate paleontology records check for paleontological resources, Dudek Project Number 8584-7-1, in the City of Los Angeles, Los Angeles County, Project Area. Unpublished records search results letter from the Natural History Museum of Los Angeles County, Los Angeles, California.

3.6 Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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 Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a) Would the Project expose people or structures to 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.

No Impact. The Proposed Project site is not located within an Earthquake Fault Zone, formerly known as an Alquist-Priolo Earthquake Fault Zone, and is not traversed by any known active faults. The nearest active fault to the Project site, as identified by the City of Los Angeles, is the Verdugo fault, located approximately 2.7 miles from the Proposed Project site (City of Los Angeles 2016). Fault rupture is not expected to occur on the Proposed Project site. No impact would occur.

ii) Strong seismic ground shaking?

Less Than Significant Impact. As with all areas in Southern California, the Proposed Project site is located in a seismically active region, within which are numerous known earthquake faults. As stated in Section 3.6(a)(i), there is a known earthquake fault approximately 2.7 miles from the Proposed Project. As with most areas throughout Southern California, the site could be exposed to strong seismic ground shaking. However, Project structures would be designed and constructed in accordance with the latest version of the California Building Code and the City of Los Angeles Building Code relative to seismic criteria, and neither people nor structures would be exposed to potential substantial adverse effects. Impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The Proposed Project site has not been identified as being potentially susceptible to liquefaction (City of Los Angeles 2016). However, as discussed in Section 3.6(a)(ii), the Proposed Project site has the potential to be exposed to

strong seismic ground shaking, and in some cases, seismic-related ground failure. However, Project structures would be designed and constructed in accordance with the latest version of the California Building Code and the City of Los Angeles Building Code relative to seismic criteria, which provides a measure of safety for people and structures exposed to potential substantial adverse effects involving seismic-related ground shaking. The impact is less than significant.

iv) Landslides?

No Impact. The Proposed Project site and surrounding area is flat, and the site has not been mapped as a landslide hazards area (City of Los Angeles 2016). Therefore, people or structures on the site would not be exposed to landslide hazards. No impact would occur.

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

Less Than Significant Impact. Construction of the Proposed Project would result in ground surface disruption during grading and excavation that could create the potential for erosion to occur. Because the Proposed Project would involve construction on an area greater than 1 acre, it would require compliance with the Storm Water Construction Activities General Permit, which requires the construction contractor to prepare and comply with a SWPPP. The SWPPP must include erosion control measures such as covering exposed soil stockpiles, protecting the perimeter of the construction site with sediment barriers, and protecting storm drain inlets.

During operation, site conditions would be generally similar to existing conditions, with the exception of new water treatment equipment on the site. The presence of this equipment would not substantially increase soil erosion or the loss of topsoil on the site. In fact, it would slightly decrease the amount of exposed soils on the site. Adherence to existing regulations requiring stormwater management and erosion control during construction and operations (Regional Water Quality Control Board [RWQCB] Notice of Intent process and SWPPP) and implementation of the standard construction erosion and sediment control practices that they would require would ensure that soil erosion impacts are 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?

Less Than Significant Impact. The Proposed Project site is not located in an area identified for landslide or liquefaction hazards (City of Los Angeles 2016). Furthermore, the Project site has supported buildings and infrastructure for several decades, which

have not been compromised by geologic or soil instability. The new equipment that would be installed on the Proposed Project site would be designed and constructed in accordance with the latest version of the California Building Code and the City of Los Angeles Building Code relative to seismic criteria. Compliance with the current regulations would ensure that Project structures are designed and built to current standards to minimize any potential impacts and hazards associated with unstable soils. The impact would be less than significant.

d) Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. As described above under Section 3.6(c), the Proposed Project site has supported buildings and infrastructure for several decades. To date, damage to on-site buildings and infrastructure as a result of expansive soils has not occurred. Therefore, effects related to expansive soils would not likely occur. The California Building Code and the City of Los Angeles Building Code outline specific design, engineering, and development standards for structures proposed in areas with unstable soils. In the unlikely event that such soils are encountered on the Proposed Project site, compliance with these regulations would ensure that Project structures are designed and engineered to withstand on-site soil conditions. Impacts would therefore be less than significant.

e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Proposed Project does not include installation of septic tanks or alternative wastewater disposal systems. During Project construction, sanitary waste would be handled by temporary portable chemical toilets. The waste from temporary facilities would be removed by a private contractor and disposed of at an approved off-site location. During Project operation, the Proposed Project would connect to the City sewer system. As such, no impact would occur relative to the ability of on-site soils to support septic tanks or alternative wastewater disposal systems.

References

City of Los Angeles. 2016. Zimas "Seismic Hazards." Web Map Application. Accessed April 20, 2016. http://zimas.lacity.org/.

3.7 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?	☐	☐	☒	☐

The GHG emissions analysis contained below is supplemented by Appendix B, which provides background information on the regulatory setting and analysis assumptions for GHG emissions applicable to the Proposed Project.

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

Less Than Significant Impact. Development of the Proposed Project would result in short-term construction and long-term operational emissions of GHGs. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor (H_2O). The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of metric tons (MT) of CO_2 equivalent (CO_2E).[3]

The Proposed Project's GHG emissions have been compared to the SCAQMD recommendations of a threshold of 10,000 MT CO_2E per year for industrial projects.[4] This threshold is intended to be applied to the Proposed Project's emissions to determine

[3] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that MT of CO_2E = (MT of a GHG) × (GWP of the GHG). For example, the GWP for CH_4 is 21. This means that emissions of 1 MT of CH_4 are equivalent to emissions of 21 MT of CO_2.

[4] In October 2008, SCAQMD presented to the Governing Board the Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008), explored various approaches for establishing a significance threshold for GHG emissions. This guidance document, however, was not adopted or approved by the Governing Board. Among the concepts discussed, the document considered a threshold for industrial projects 10,000 MT CO_2E per year, which is used herein to evaluate the significance of potential project-generated GHG emissions.

whether they would result in a cumulatively considerable contribution to the impacts of global climate change.

Project-generated emissions and potential impacts are assessed below.

Construction Impacts

Construction of the Proposed Project would result in GHG emissions that are primarily associated with use of off-road construction equipment and on-road construction and worker vehicles. CalEEMod was used to calculate the annual GHG emissions based on overall average annual construction assumptions.[5] The SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies" (SCAQMD 2008). Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 10,000 MT CO_2E. The determination of significance, therefore, is addressed in the operational emissions discussion below.

On-site sources of GHG emissions during construction include off-road equipment, and off-site sources include haul and vendor (delivery) trucks and worker vehicles. The estimated total GHG emissions during Proposed Project construction would be approximately 45 MT CO_2E. Amortized over 30 years, construction GHG emissions would be approximately 1.5 MT CO_2E per year. Additional details regarding these calculations are provided in Appendix B.

Operational Impacts

Operation of the Proposed Project would result in GHG emissions primarily through energy use (generation of electricity consumed by the Proposed Project). GHGs would also be generated by the relatively infrequent motor vehicle trips to the Proposed Project site and off-road equipment use for facility maintenance activities. Annual GHG emissions associated on-road vehicles and off-road equipment were estimated using CalEEMod, while GHGs from energy use were calculated based on total energy usage of the facility (approximately 21.98 gigawatt-hours/year) and indirect GHG emission factors

[5] These assumptions differ slightly from the worst-case day scenario developed for the air quality analysis included in Section 3.3 of this document. Specifically, the off-road equipment GHG emissions calculation is based on the total hours of equipment use over the duration of construction, rather than a maximum day of equipment usage.

from electricity generation by LADWP (adjusted for the Renewable Portfolio Standard). The minimal maintenance activities would consist of refilling of the hydrogen peroxide tank (once per month), replacement of the UV lamps (once every 16 months), and GAC replacement (once every 5 years). For the worst-case annual scenario, it was assumed that all activities would occur during the same year as GAC replacement. Detailed assumptions, including GHG emissions from electricity generation, number and types of equipment, estimated daily worker and total estimated haul and delivery truck trips, are provided in Appendix B. Table 3.7-1 summarizes the GHG emissions that will be generated by the Proposed Project.

Table 3.7-1
Worst-Case Annual Operational Emissions

	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
Energy (electricity)	9,766.2	6.1	19.1	9,791.4
On-road vehicles and off-road equipment	7.7	0	0	7.7
Construction (amortized over 30 years)	1.5	0	0	1.5
Total Proposed Project GHG emissions	**9,775.4**	**6.1**	**19.1**	**9,800.6**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
See Appendix B for detailed results.

As shown in Table 3.7-1, estimated annual increased GHG emissions associated with the Proposed Project would not exceed the applied SCAQMD threshold of 10,000 MT CO_2E per year. Therefore, operational GHG impacts for the Proposed Project would be less than significant.

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

Less Than Significant Impact. The Climate Change Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates from the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures

focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles) and associated fuels, among others.

California Executive Order S-3-05 established a goal to reduce statewide GHG emissions to the 1990 level by 2020; and to reduce statewide GHG emissions to 80% below the 1990 level by 2050. The topic of whether a GHG emissions analysis must conform to the 2050 reduction target expressed in Executive Orders B-30-15 and S-3-05 is currently before the Supreme Court in the *Cleveland National Forest Foundation v. San Diego Association of Governments* case. Such targets have not been adopted by the state and remain only a goal of the Executive Orders. Technically, an Executive Order does not have the effect of new law but can only reinforce existing laws. For instance, as a result of the AB 32 legislation, the state's 2020 reduction target is backed by the adopted AB 32 Scoping Plan, which provides a specific regulatory framework of requirements for achieving the 2020 reduction target. Nevertheless, the Proposed Project is evaluated for conflicts with post-2020 GHG reduction goals declared by the state.

The City of Los Angeles has established a Climate Action Plan that establishes the goal of reducing City GHGs by to 35% below 1990 levels by 2030 (City of Los Angeles 2007).

By remediating well fields, which would restore the use of local water supplies, the Proposed Project would not conflict with the Executive Order's near-term 2020 goal (as codified in AB 32), the long-term 2050 goal, or the City Climate Action Plan. From an energy perspective, the ability to utilize local sources of water reduces use and future dependency on imported water supplies, the conveyance of which is one of the largest consumers of energy in California. The Proposed Project would not conflict with any other applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, this cumulative impact would be less than significant.

References

City of Los Angeles. 2007. *Green LA – An Action Plan to Lead the Nation in Fighting Global Warming.* May 2007.

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*. December 2009.

SCAQMD. 2008. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008.

3.8 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 that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) 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?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

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

Less Than Significant Impact. Analysis was conducted to determine whether construction and operation of the Proposed Project would result in a significant hazard to the public or environment from exposure to hazardous materials, including risks to human health from ingesting contaminated groundwater. The analysis contained below of

the potential short- and long-term impacts that would result from implementing the proposed project concludes that the project is necessary to protect drinking water supplies and human health. A result of project implementation is a less than significant impact relative to hazardous materials.

Human Health Risk Assessment

Elevated concentrations of 1,4-dioxane and VOCs have been detected in groundwater at seven NHW wells. Given the proximity of the 1,4-dioxane groundwater contamination relative to the NHW Well Field and the groundwater flow pattern across the general area, 1,4-dioxane would continue to be captured by NHW production wells. In the absence of groundwater pumping at the NHW Well Field, there is also a potential for 1,4-dioxane impacted groundwater to migrate to other groundwater production wells.

As part of the remedial investigation and feasibility study (RI/FS) conducted in relation to the NHW Well Field, LADWP has conducted a Human Health Risk Assessment (HHRA) to evaluate whether the contaminated groundwater poses a risk to human health if human receptors (e.g., local residents or workers) were exposed to untreated groundwater. The HHRA addresses the existing condition of the water extracted from the NHW wells without treatment. Accordingly, the HHRA is prepared for the purpose substantiating the need for remedial action and provides initial parameters for treatment facility sizing and process. Because of federal and state drinking water regulations and the fact that LADWP has stopped producing water from the contaminated wells, it is not likely that residential consumers actually would be exposed to the contaminated groundwater.

In addition, it is unlikely that significant ecological risks exist since no ecological receptors would be exposed to contaminants from groundwater. Consequently, ecological risks and impacts are minimal and less than significant.

The HHRA in the RI/FS evaluates risk from 1,4-dioxane and several other VOCs known to occur in groundwater. For each constituent, lifetime cancer risk and/or hazard quotient was estimated. A value below 10^{-6} is considered an acceptable cancer risk. A cancer risk below 10^{-5} is within the acceptable cancer risk defined by SWRCB Division of Drinking Water (DDW) for potable water use under Policy Memo 97-005 permitting requirements.

Chemical specific and pathway specific health risks for residents, commercial workers and construction workers exposed to 1,4-dioxane in groundwater from production wells and monitoring wells are presented in detail in the RI/FS. The evaluation shows that concentrations of 1,4-dioxane and other VOCs in the subject NHW production wells exceed the risk factors for cancer and non-cancer endpoints under existing conditions, which would

result in a significant adverse impact to those exposed to the water. However, this is based on exposure to untreated groundwater. The proposed AOP treatment would remove 1,4-dioxane and other VOCs from groundwater, producing water meeting all regulatory limits for potable water. Specifically, the treatment system is designed to reduce the 1,4-dioxane contamination to below the notification level (NL) limit of 1 μg/L.

A 1 μg/L NL for 1,4-dioxane is the concentration of a contaminant in drinking water that is considered not to pose a significant health risk to people ingesting that water on a daily basis. The NL is only for the ingestion of drinking water, and does not take in to consideration possible dermal or inhalation exposures resulting from typical household uses of water containing a specific constituent of concern. The NL for 1,4-dioxane is slightly greater than the *de minimis* (1×10^{-6}) level commonly used for NLs based on cancer risk, reflecting difficulty in monitoring 1,4-dioxane at very low concentrations when the NL was established.

VOCs that occur in other NHW wells not connected to the treatment system occur in concentrations that can be managed by LADWP through its existing permit and blending plan in a manner that ensures regulatory limits in potable water for such chemicals are not exceeded. Under the Proposed Project, these other contaminants would continue to be addressed through these existing permit requirements and procedures.

By treating the well water such that 1,4-dioxane remains at or below the NL, and reducing contamination migration in the aquifer, the proposed project would protect human health of residents and workers, resulting in less than significant impact.

Construction Impacts

Construction of the Proposed Project would include activities involving some hazardous materials, including on-site fueling and minor servicing of construction equipment. However, construction activities would be short-term in nature, and the types of materials that would be involved are not considered acutely hazardous. Furthermore, the handling of these materials is subject to federal, state, and local health and safety requirements. Therefore, Project construction would not create a significant hazard to the public or environment from the routine transport, use, or disposal of hazardous materials during construction.

Operations Impacts

Long-term operation of the Proposed Project would involve the transport, use, and disposal of materials that could be potentially hazardous. These materials would consist primarily of hydrogen peroxide, UV lamps, and GAC. In the concentrations that would

be required for the Proposed Project, hydrogen peroxide is considered a hazardous material that is regulated at the federal and state level. Workers would be required to follow state and federal laws governing the handling, storage, and transport of hydrogen peroxide. Hydrogen peroxide would be delivered to the site by truck approximately one time per month and would be transferred to the proposed hydrogen peroxide storage facility at a designated truck off-loading area. The design of the Proposed Project incorporates the following features to minimize potential impacts and protect public health:

- The off-loading area would be equipped with spill and leak containment to prevent the spread and release of the chemical in the event that a spill were to occur during deliveries.
- The hydrogen peroxide would be transferred from the truck to the storage tanks via a hydrogen peroxide fill station, which would be equipped with an emergency shut off.
- The hydrogen peroxide storage facility would also be equipped to prevent any chemical spills and to safely handle and contain them in the event that a spill were to occur during chemical storage.
- The facility would have a hydrogen peroxide leak sensor, spill and leak containment beneath the storage tanks and associated chemical lines, and a sump pump.
- The facility would also have a shower and eyewash for workers, in the unlikely event of exposure to hydrogen peroxide.
- The hydrogen peroxide injection vault would be equipped with a leak sensor, a sump, and sump pumps.

Due to these containment and safety features that are included in the design of the hydrogen peroxide storage facility and injection vaults, and due to required compliance with state and federal regulations that mandate safe handling and storage of hydrogen peroxide, use of this chemical on the Proposed Project site is not expected to cause a significant hazard to the public or the environment.

UV lamps, including those that would be used for the Proposed Project, typically contain mercury. As such, in the unlikely event that a lamp were to break during transport, operation, or disposal, mercury could be released into the environment and the workers handling the lamps could be exposed to mercury. Mercury is a hazardous material that is regulated at the state and federal level as universal waste (U.S. EPA 2015a), and exposure could result in a significant adverse impact. However, the Proposed Project

incorporates the following procedures to minimize potential impacts and protect public health in the event of a mercury release:

- Workers will comply with applicable state and federal laws establishing safety protocol for cleanup and disposal of the mercury.
- In the unlikely event that mercury is released into the water supply due to a lamp break during operations, the amount of water that flows through LADWP's distribution system would be sufficient to dilute the mercury below the maximum contaminant level (MCL). The broken lamps would then be removed and disposed of in accordance with the applicable state and federal laws governing the handling and disposal of mercury.
- Due to the mercury content in the lamps, they are considered a hazardous waste and are prohibited from being discarded into landfills (U.S. EPA 2015b). The used UV lamps would be transported to a hazardous wastes facility in accordance with applicable state and federal laws governing used mercury lamps.

The LPGAC can also pose a hazard to the public and to the environment in the event that spent carbon is spilled or leaked. However, a carbon spill or leak would be unlikely because the LPGAC vessels are designed with a closed-loop carbon exchange, so that spent carbon is removed and fresh carbon is refilled without exposure to the environment. The spent carbon would be transferred to a processing or disposal facility in accordance with state and federal laws regulating transport and disposal of chemicals. LPGAC can also create hazardous low-oxygen conditions for workers in certain circumstances. Activated carbon removes oxygen from air, and in closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels, exposure to which could result in a significant adverse impact. However, workers will not enter any vessels containing LPGAC since LPGAC is added to and removed from the tanks externally, and all applicable state and federal worker safety requirements would be implemented. Accordingly, the LPGAC operation and maintenance would not cause a hazard to the public or to the environment would be less than significant.

While several types of hazardous materials would be involved with operation of the Proposed Project, compliance with the existing laws regulating these substances and the safe handling procedures listed above would ensure that they are handled properly and that spills are contained and addressed in a safe manner in the unlikely event that a spill were to occur. For these reasons, impacts related to the routine use, transport, and disposal of hazardous materials associated with operations would be less than significant.

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. Construction of the Proposed Project would include activities involving some hazardous materials, including on-site fueling and minor servicing of construction equipment. However, construction activities would be short-term in nature, and the types of materials that would be involved are not considered acutely hazardous. Furthermore, the handling of these materials is subject to federal, state, and local health and safety requirements. Therefore, Project construction would not create a significant hazard to the public or environment from an accidental release of hazardous materials into the environment.

As described under Section 3.8(a), several hazardous materials would be used during operation of the Proposed Project. In the unlikely event that these materials were to be accidentally released to the environment during Project operation, they could pose a hazard to the public and to the environment. However, the substances discussed in Section 3.8(a) (hydrogen peroxide, mercury, and GAC) would be handled in accordance with state and federal laws governing the storage, use, transport, and disposal of such materials. Any release of hazardous materials would be handled in a manner that would not pose a significant hazard to the public or the environment. As such, impacts related to an accidental release of hazardous materials into the environment are less than significant.

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. The nearest schools are Bellingham Elementary, located 0.4 miles southeast from the Proposed Project site and Coldwater Canyon Elementary School, located 0.4 miles southwest of the Proposed Project site. As such, the Proposed Project would not be located within a quarter mile of an existing or proposed school. No impact would occur.

d) Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Government Code Section 65962.5 applies to facilities that may be subject to the Resource Conservation and Recovery Act Corrective Action program involving the cleanup of improperly managed hazardous wastes. The Proposed Project site is not contained on any lists compiled pursuant to Section 65962.5 or on the California

Department of Toxic Substances Control database (EnviroStor) for contaminated sites (DTSC 2007, 2016). Though portions of the North Hollywood Well Field Area are listed as a federal Superfund site, the Proposed Project site is not currently within the boundaries of the Superfund area (City of Los Angeles 2016; U.S. EPA 2016). No impact would occur.

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 Proposed Project site is located 2 miles west of the Hollywood-Burbank Airport. However, it is located outside of the airport influence area and planning boundary, noise contours, and runway protection zone (Los Angeles County ALUC 2003). The site is separated from the airport by the SR-170, residential neighborhoods, commercial uses, and industrial development. The Proposed Project would include no occupied facilities that would result in a safety hazard for people or any facilities that would be of a height that would represent an obstruction to air navigation. As such, while the Proposed Project would be located within 2 miles of a public airport, it would not result in a substantial safety hazard for people residing or working in the Project area, and impacts would be less than significant.

f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?

No Impact. The Proposed Project would not be located within the vicinity of a private airstrip. No safety impact would result due to private airstrips.

g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Proposed Project would be located within an existing LADWP water pumping and treatment site. Access to the site would be provided via two existing LADWP driveways that are currently used to access the site for maintenance and operation purposes. No permanent or temporary street closures are planned during either Project construction or operations. Emergency access to or egress from the Proposed Project site or surrounding areas would not be adversely affected. As such, development of the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. According to the City of Los Angeles General Plan Safety Element, no wildland fire hazard areas occur within the Project site or near the Proposed Project site (City of Los Angeles 1996). No construction or operational activity related to the Proposed Project would create a significant risk related to wildland fire. As such, no impact would occur.

References

Borchers, H., A. Fuller, and J.P. Malley Jr. 2016. *Assessing the Risk of Mercury in Drinking Water after UV Lamp Breaks.* Durham, New Hampshire: New England Water Treatment Technology Assistance Center, University of New Hampshire. Accessed July 5, 2016. http://www.unh.edu/wttac/Project_Summaries/risk_mercury_drinking_water.pdf.

City of Los Angeles. 1996. "Safety Element." *City of Los Angeles General Plan*. Adopted November 26, 1996. Accessed September 30, 2015. http://planning.lacity.org/GP_elements.html.

City of Los Angeles. 2016. Zimas "Hazardous Waste/Border Zone Properties." Web Map Application. Accessed July 5, 2016. http://zimas.lacity.org/.

DTSC (Department of Toxic Substances Control). 2007. "Hazardous Waste and Substances Site List." Accessed July 5, 2016. http://www.calepa.ca.gov/SiteCleanup/CorteseList/SectionA.htm.

DTSC. 2016. EnviroStor Database. Accessed July 5, 2016. http://www.envirostor.dtsc.ca.gov/public/.

Federal Remediation Technologies Roundtable. 2016. "Chapter 20 Liquid-Phase Carbon Adsorption" in *Remediation Technologies Screening Matrix and Reference Guide, Version 4.0.* Accessed July 5, 2016. https://frtr.gov/matrix2/top_page.html.

Los Angeles County ALUC (Airport Land Use Commission). 2003. Burbank/Glendale/Pasadena Airport – Airport Influence Area." May 13, 2003. Accessed September 30, 2015. http://planning.lacounty.gov/aluc/airports#anc-apm.

U.S. EPA (U.S. Environmental Protection Agency). 2015a. "Universal Waste." Webpage. Last updated March 24, 2016. Accessed May 3, 2016. https://www.epa.gov/hw/universal-waste.

U.S. EPA. 2015b. "Recycling and Disposal after a CFL Burns Out." Webpage. Last updated October 23, 2015. Accessed May 3, 2016. https://www.epa.gov/cfl/recycling-and-disposal-after-cfl-burns-out#whererecycle.

U.S. EPA. 2016. "Search for National Priority List (NPL) Superfund Sites." Results for Region 9. Last updated May 31, 2016. Accessed July 5, 2016. https://www.epa.gov/superfund.

3.9 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?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) 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?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a) Would the Project violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. Water quality standards applicable to the Proposed Project consist of two types: those related to the quality of drinking water delivered by LADWP to its customers, and those related to the protection and enhancement of water quality in the environment (i.e., surface water and groundwater quality). Drinking water standards are set under the federal Safe Drinking Water Act (SDWA) and the California Safe Drinking Water Act (California SDWA). Regulations implementing the California SDWA are defined in the California Health and Safety Code and Titles 17 and 22, California Code of Regulations. Environmental water quality standards are set under both the Clean Water Act (federal law) and the Porter-Cologne Water Quality Control Act (state law). The California Legislature has assigned the primary responsibility to administer and enforce statutes related to water quality to the State Water Resources Control Board (SWRCB) and its nine RWQCBs.

The Proposed Project's compliance with regulatory standards with respect drinking water quality, surface water quality, and groundwater quality is discussed below.

Drinking Water Quality

As discussed in the RI/FS and the MND Project Description, implementation of a DDW-approved monitoring plan has detected 1,4-dioaxane concentrations exceeding both the NL of1 µg/L and the DDW Permit limit of 10 µg/L within seven NHW groundwater production wells (see Table 1 in the MND Project Description). Concentrations in well NH-43A exceeds the response level (35 µg/L). These seven wells were removed from service between November 2014 and March 2015 (except to facilitate testing and monitoring for the RI/FS). About a quarter-mile north and northwest of the NHW well field, across SR-170, the groundwater monitoring network has detected a plume of 1,4-dioxane with concentrations that exceed 100 µg/L within the shallow groundwater. LADWP determined that the elevated concentrations of 1,4-dioxane in the well field represent a threat to the long-term viability of the NHW well field and to public health.

Removing the wells from service was done to prevent 1,4-dioxane concentrations from exceeding the NL at the LADWP blend point down-stream of the NHW Well Field and is consistent with the DDW-approved Blending Plan (as described in the RI/FS).

LADWP monitors its drinking water sources and distribution systems in accordance with California Code of Regulations, Title 22, Division 4, Chapter 15, Domestic Water Quality and Monitoring. LADWP's existing DDW domestic water supply permit requires extensive water quality monitoring of its raw water supplies (i.e., reservoirs and groundwater), as well as within its treatment and distribution system to ensure water delivered to customers is safe and compliant with all drinking water statutes (CDPH 2008). LADWP is required to monitor its groundwater sources for a wide range of constituents, including bacteriological constituents; general physical, secondary, and inorganic constituents; nitrate and nitrite; radiological constituents; VOCs; and non-volatile synthetic organic chemicals. Unregulated chemicals (i.e., those lacking an enforceable MCL or required treatment technique) for which monitoring is required include 1,4-dioxane, chromium, N-nitrosodimethylamine (NDMA), and 1,2,3-trichloropropane (1,2,3-TCP).

Though some of LADWP's wells exceed MCLs or NLs for certain constituents of concern, the water delivered by LADWP to its domestic customers meets or surpasses the highest federal and state drinking water standards set by U.S. EPA and the SWRCB DDW (LADWP 2014). This is achieved through continual monitoring of source water quality, use of various treatment technologies (as appropriate for the source and quality of raw water), blending operations as needed to achieve water that meets potable standards, and verification/testing of treated water. LADWP publishes yearly water quality monitoring reports demonstrating that water entering its distribution systems meets all applicable water quality standards.

To implement the Proposed Project, an update to LADWP's DDW Domestic Water Supply Permit would be required. The RI/FS serves as the basis of the Proposed Plan which addresses 1,4-dioxane remediation in three ways: 1) a Pumping Plan to control the spread of the contaminant plume and protect other water supply wells in NHW, 2) treatment of water to remove 1,4-dioxane using AOP technology, and 3) monitoring the results to measure attenuation of contaminants. Based on the RI/FS, it is anticipated that the three designated remediation wells would achieve a pumping rate after four years of 11,881 AFY. In year four, the anticipated concentration of 1,4-dioxane extracted from remediation wells would be 8 µg/L (the AOP treatment system is designed to treat 1,4-dioxane concentrations up to 20 µg/L). Pumping of groundwater from secondary wells (previously removed from service) would commence in year 5 and would restore 10,287 AFY of pumping capacity. The combined 1,4-dioxane concentration in the remediation

wells is simulated to decrease through time and is expected to decrease below the NL of 1 μg/L by year 15 of remediation (LADWP 2016a).

As discussed in the Section 2.2 of the MND Project Description, LADWP would implement a groundwater monitoring program to monitor contaminant levels in the well field and confirm the effectiveness of the pumping and treatment plans. These plans include the DDW Extremely Impaired Water Quality Surveillance Plan (consistent with DDW Policy 97-005) and the Remedial Action Progress Monitoring Plan described in the RI/FS.

In addition, LADWP would continue to comply with applicable regulations and the terms of its water supply permit, continue to implement its extensive water quality monitoring activities, and would implement corrective actions where needed to ensure the continued safety and reliability of its water supply. In the event non-target constituents (i.e., those not specifically treated by the AOP treatment technology) start to be detected at concentrations exceeding applicable notification levels, LADWP would take appropriate action which includes notifying the SWRCB DDW, increased monitoring, and if necessary, deactivation of wells until the issue can be addressed.

The Proposed Project, by removing and controlling the 1,4-dioxane contaminant mass from the groundwater basin through treatment at the NHW wells, would ensure the drinking water quality of the well field by maintaining the level of 1,4-dioxane below the 1 μg/L NL. Removal of other VOCs through the proposed treatment system and the continued active management of these VOCs in drinking water through the existing monitoring and blending plan, would ensure that they are maintained within safe drinking water limits. For these reasons, the impact of the Proposed Project on drinking water quality would be less than significant.

Surface Water Quality

Water quality objectives, plans, and policies for surface waters are established in the *Water Quality Control Plan for the Los Angeles Region* (Basin Plan), as amended. The Basin Plan establishes water quality objectives based on the beneficial uses identified for surface waters, and aims to address threats to water quality through various programs and policies, such as establishment of total maximum daily loads (TMDLs). The Proposed Project is located in a highly urbanized setting served by a network of storm drains that eventually discharge to the Tujunga Wash and the Los Angeles River (SWRCB 2012). These water bodies are impaired under Clean Water Act Section 303(d) with the following pollutants: ammonia, coliform bacteria, copper, trash, lead, and nutrients (SWRCB 2012). Effluent from treatment plants and process water discharges comprise a significant fraction of flows in these receiving waters. Potential threats to water quality

associated with the Proposed Project are minimal because it would not involve significant non-stormwater discharges to the storm drain system during operation and maintenance activities. Well purging and LPGAC vessel backwashing water would be directed to the City's sanitary sewer system, as discussed in Section 3.17, below. Potential water quality impacts associated with altered land cover and imperviousness of the site are addressed in Sections 3.9(c) and 3.9(d), below.

Stormwater runoff from the site during construction and operation of the Proposed Project could contribute limited amounts of pollutants to receiving waters, such as sediment, litter, and/or fuels and greases. Construction-related land disturbance such as grading, excavation, and trenching for installation of treatment facilities would result in minor disturbance of soils over a relatively small area (less than 2 acres). Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of construction materials could result in water quality degradation if runoff containing the sediment entered receiving waters in sufficient quantities to exceed water quality objectives. Impacts from construction-related activities would generally be short term and of limited duration. Non-stormwater discharges during construction, such as dewatering of excavations and trenches are not anticipated due to the shallow nature of such excavations in comparison to the depth to groundwater in the area, which is about 200 feet (ULARA Watermaster 2014).

Because implementation of the Proposed Project would collectively require construction activities resulting in a land disturbance of more than 1 acre, LADWP would be required to obtain coverage under the Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended), which pertains to pollution from grading and Project construction. Coverage under the Construction General Permit requires a qualified individual (as defined by the SWRCB) to prepare a SWPPP to address the potential for construction-related activities to contribute to pollutants within the Proposed Project's receiving waterways. The SWPPP must describe the type, location and function of structural measures to alleviate stormwater impacts and must demonstrate that the combination of measures selected are adequate to meet the discharge prohibitions, effluent standards, and receiving water limitations contained in the Construction General Permit. Measures developed as part of the SWPPP include, but are not limited to, minimizing the extent of disturbed areas and duration of exposure, stabilizing and protecting disturbed areas, keeping runoff velocities low, and retaining sediment within the construction area, as well as the use of temporary desilting basins, silt fences, gravel bag barriers, temporary soil stabilization, temporary drainage inlet protection, and diversion dikes and interceptor swales.

These water quality plans would prevent construction-related contaminants from reaching impaired surface waters and contributing to impacts on water quality in the region's

receiving waters. Furthermore, transport, use, and disposal of hazardous materials required for operation and maintenance of the Proposed Project are described in Section 3.8 (above), including handling of hydrogen peroxide and exchange of carbon filters. Storage of hydrogen peroxide would include use of secondary containment features in the event of spill or leak. Legal requirements that address hazards and hazardous materials described in Section 3.8 would effectively avoid or substantially minimize the potential for such materials to be released into stormwater runoff.

Required compliance with the Construction General Permit and waste discharge requirements, including preparation and implementation of a SWPPP, would ensure that water quality impacts resulting from construction and operation activities would be less than significant.

Groundwater Quality

The proposed remediation response at the NHW well field would not contribute additional pollutant sources to the groundwater basin; instead, it would remove 1,4-dioxane from the basin by converting it to water, CO_2, and chlorine. The intent of the Proposed Project is to remove 1,4-dioxane from the basin by physical extraction and contain the 1,4-dioxane plume, which would limit its spread and threat to other parts of the groundwater basin.

Pumping from the NHW well field for 1,4-dioxane remediation would affect the distribution and extent of 1,4-dioxane in the vicinity of the well field, due to the pumping radius of influence. The direction and rate of migration for 1,4-dioxane in the groundwater could be locally altered in response to pumping, thereby affecting measured concentrations over time. However, it is a purpose of the remediation wells to intercept the contaminant plume as a means of protecting the secondary and preferred wells in the NHW Well Field. Without the proposed pumping plan, there is a potential that 1,4-dioxane would migrate further south, potentially contaminating additional groundwater production wells. Therefore, with regard to 1,4-dioxane mass in the groundwater basin, the Proposed Project would have a net positive effect.

As LADWP is the only user of groundwater wells in the vicinity (ULARA Watermaster 2014), the Proposed Project would not impact groundwater quality for other wells (e.g., private domestic wells, small water companies, or individual producers). For these reasons, the Proposed Project's impacts on groundwater quality, including movement of the 1,4-dioxane plume under the NHW Well Field, would be less than significant.

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

Less Than Significant Impact. During Project construction, minor amounts of water would be required for various uses, such as the concrete mix required for the concrete pads. The waters used for this purpose would be from treated water supplies or approved reclaimed water supplies. However, because of the relatively small quantity of water required in the context of available supply, no depletion of groundwater or other supplies would occur from Project construction.

Groundwater extraction from the SFB is limited by court-defined rights recorded in the *Judgment of the California Superior Court in Case No. 650079, The City of Los Angeles vs. The City of San Fernando, et al.*, dated January 26, 1979. The SFB is an adjudicated basin and is administered by the Upper Los Angeles River Area Watermaster. LADWP is therefore limited in the overall amount of groundwater that they can pump from the SFB. The City's entitlement averages 87,000 acre-feet per year. Extracted water is "charged" to the City's pumping entitlement, as stipulated in the 1979 judgment. As such, groundwater extraction from NHW would continue to be limited by LADWP's adjudicated water rights. Furthermore, there are no groundwater wells owned or operated by entities other than LADWP in the immediate vicinity of the NHW well field, which means local lowering of the groundwater table in response to resumed pumping would not adversely impact other non-LADWP wells. Surrounding land uses are served by LADWP's distribution system and do not rely directly on groundwater wells.

LADWP's capability to operate the NHW well field consistent with existing water rights would remove groundwater from storage, but not in a manner that violates the City's entitlement. Therefore, the impact would be less than significant.

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, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. No streams, rivers, wetlands, or other waterbodies are located on, or within the vicinity of, the Proposed Project site. As such, the Proposed Project would not result in the alteration of the course of a stream or river. However, construction of the Proposed Project would result in ground surface disruption during grading and excavation that could create the potential for erosion to occur. The

construction contractor would be required to implement methods to minimize erosion and sedimentation during construction, in accordance with the Construction General Permit described in Section 3.9(a).

During operation, site conditions would be generally similar to existing conditions, with the exception of new facilities to remove 1,4-dioxane from groundwater would be provided on the site. Any long-term changes in drainage patterns that would occur as a result of the Proposed Project would be limited to minor, highly localized changes, mostly associated with the presence of additional structures and additional of impervious surfaces on the site. The Proposed Project site would maintain the general drainage pattern as it currently exists. Furthermore, the Proposed Project would comply with the City of Los Angeles Low Impact Development Ordinance, which requires management of stormwater on site, including measures to capture and infiltrate stormwater into pervious surfaces. Due to the developed nature of the Proposed Project area, the relatively small size of the Proposed Project site, and required compliance with existing regulations, any minor alterations to the existing drainage pattern of the Proposed Project site would result in a less than significant impact relative to erosion or siltation on or off the Proposed Project site.

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

Less Than Significant Impact. As described in Section 3.9(c), no streams, rivers, wetlands, or other waterbodies are located on, or within the vicinity of, the Proposed Project site. The Proposed Project would not result in the alteration of the course of a stream or river. During construction, the Proposed Project would temporarily alter the drainage pattern of the site due to excavation, grading, and exposure of topsoil. However, these temporary alternations would be minimal and would not be expected to create flooding Additionally, compliance with the Project-specific SWPPP that is required per the Construction General Permit, specifically the use of run-off control devices, would ensure that flooding on or off site is minimized during construction to the extent practicable.

The Proposed Project involves the addition of new facilities for removing 1,4-dioxane from groundwater. The addition of this equipment would not substantially change the drainage patterns of the site. The increase in impervious surfaces due to treatment facilities could cause a minor increase in peak flow rate and runoff volumes from the site. However, this increase would be minimized through required compliance with the City of Los Angeles Low Impact Development Ordinance, which requires management of stormwater on site, including measures to capture and infiltrate stormwater into pervious surfaces. Any minor

alterations to the existing drainage pattern of the Proposed Project site would result in less than significant impacts relative to flooding on or off site.

e) Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. During construction of the Proposed Project, drainage patterns and runoff quantities on the Project site may be temporarily altered, which could potentially cause increased runoff or runoff that contains sediment, petroleum products, or other potential water pollutants used during construction. The potential impacts of polluted runoff, including stormwater runoff, non-stormwater discharges, and the transport/use of hazardous materials, are addressed in the criteria outlined above.

With regard to the capacity of the existing or planned stormwater drainage system, the Proposed Project would involve a minor increase in impervious surfaces on the site, attributable to the addition of new structures and equipment on the facilities site (see Figure 2-2 in the MND Project Description). An increase in impervious surfaces has the potential to increase runoff and/or pollutants in the site runoff. However, portions of the facilities site would remain pervious. Additionally, the site is surrounded on three sides by entirely pervious surfaces (i.e., the sports fields and park). As such, site runoff is expected to be in the form of sheet flow, and would be at least partially absorbed by the pervious surfaces on and off site.

There are two stormwater catch basins near the corner of Whitsett Avenue and Vanowen Street that drain stormwater from Whitsett Avenue and portions of the park. Another stormwater catch basin is situated at Vanowen Street and the SR-170 overpass, near the southeast corner of the Project site. These nearby catch basins would direct any excess drainage from the park and Proposed Project site to the municipal storm drain system (LADPW 2016). The size of the site in comparison to the enormous size of the urban area served by the City's storm drain system means any increase or decrease in impervious surfaces on the Proposed Project site would have a negligible (i.e., non-measurable) effect on the capacity of the storm drain system. Nevertheless, the required compliance with the City of Los Angeles Low Impact Development Ordinance would reduce the potential for increased runoff to occur. This ordinance requires management of stormwater on site, including measures to capture and infiltrate stormwater into pervious surfaces. For these reasons, impacts would be less than significant.

f) Would the Project otherwise substantially degrade water quality?

No Impact. Based on the type and magnitude of activities anticipated during Project construction and operations, the Proposed Project would not otherwise substantially degrade water quality. No impact would occur.

g) Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The Proposed Project does not include the development of housing. Therefore, no impact would occur.

h) Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The Proposed Project site is not located within a 100-year flood hazard area (DWR 2016). As such, the Proposed Project would not place structures within a 100-year flood hazard area, and no impact would occur.

i) Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. As discussed above in Sections 3.9(g) and 3.9(h), the Proposed Project site is not located within a 100-year flood zone or plain. However, the Proposed Project site is located within a potential inundation area, as mapped in the City of Los Angeles General Plan Safety Element. This mapped inundation area covers approximately half of the San Fernando Valley and is primarily associated with the Los Angeles Reservoir, Hansen Dam, and Sepulveda Dam (City of Los Angeles 1993). These maps are based on the assumption of an immediate and total catastrophic failure of a dam(s), and do not consider the effects of dam safety regulations (such as continual monitoring/inspections) or show the actual probability of failure. These maps are prepared as worst-case scenarios for emergency planning purposes and the actual likelihood of a dam breach is low, given the Department of Water Resources Division of Safety of Dams requires annual monitoring/inspections, and corrective actions if any dam is shown to have vulnerabilities—either structural or earthquake related. Dams and reservoirs are also monitored by the City during storms.

Since the Proposed Project consists of installing water treatment equipment, it does not expose people or habitable structures to significant safety risks by virtue of being in a dam inundation zone. Therefore, no impact would occur.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. The Proposed Project site is not located within a hillside area or a tsunami inundation area (City of Los Angeles 1993). Therefore, the Proposed Project site would not be subject to inundation by tsunami or mudflow. As identified in Section 3.9(i), the Project site is located within an inundation area associated with dams and reservoirs in the San Fernando Valley. However, the Proposed Project site is approximately 5 miles or more from these inland waterbodies. The potential for seiches to occur within these inland waterbodies is reduced through regulation of their water levels and the provision of walls of extra height to contain seiches. Given these safety measures and the distance between the Proposed Project site and the nearest inland waterbody, inundation related to a seiche is considered unlikely. Furthermore, since the Proposed Project consists of installing water treatment equipment, it would not expose people or habitable structures to significant risk associated with inundation. No impact would occur.

References

CDPH (California Department of Public Health). 2008. *System No. 1910067 – Water Supply Permit 04-15-08P-003 and Accompanying Engineering Report*. May 1, 2008.

City of Los Angeles. 1993. *Safety Element Exhibit G – Inundation & Tsunami Hazard Areas in the City of Los Angeles* and *Safety Element Exhibit C – Landslide Inventory & Hillside Areas*. October 1993. Accessed January 8, 2016. http://cityplanning.lacity.org/index.htm.

DWR (Department of Water Resources). 2016. *Best Available Maps*. Accessed April 21, 2016. http://gis.bam.water.ca.gov/bam/.

LADWP. 2016a. Remedial Investigation/Feasibility Study Report, North Hollywood West Well Field.

SWRCB (State Water Resources Control Board) 2012. Final 2012 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report). Web map viewer. Accessed May 5, 2016. http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml.

SWRCB (State Water Resources Control Board). 2016. "1,4-Dioxane." Division of Drinking Water website. Accessed May 4, 2016. http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/14-Dioxane.shtml.

LADPW (Los Angeles Department of Public Works). 2016. Los Angeles County Storm Drain System. Web map application. Accessed April 21, 2016. http://dpw.lacounty.gov/fcd/stormdrain/index.cfm.

LADWP (Los Angeles Department of Water and Power). 2014. *2014 Drinking Water Quality Report*. www.ladwp.com/waterqualityreport.

ULARA (Upper Los Angeles River Area) Watermaster. 2014. *2012–2013 Water Year Annual Report*. Watermaster Service in the Upper Los Angeles River Area, Los Angeles County, California, October 1, 2012, to September 30, 2013. December 2014.

3.10 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) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a) Would the Project physically divide an established community?

No Impact. The Proposed Project would be located in the interior of a site that is owned by LADWP and that is occupied by facilities devoted to groundwater pumping, water treatment, and distribution. The site is entirely fenced under existing conditions and would continue to be fenced during Project construction and operation. The Proposed Project would not result in physical division of any established communities. No impact would occur.

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

No Impact. The Proposed Project would be located in the interior of a site that is owned by LADWP and that is occupied by facilities devoted to groundwater pumping, water treatment, and distribution. The Proposed Project site is designated Open Space in the City of Los Angeles General Plan and is zoned OS-1XL (Open Space) (City of Los Angeles 2015). The Proposed Project site has a height restriction of 30 feet. The

proposed structures and water treatment equipment would not exceed this height limitation and would be consistent with the existing use of the site for groundwater extraction purposes. As such, no impact would result relative to conflicts with land use plans, policies, or regulations.

c) Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The Proposed Project would not conflict with any habitat conservation plan. The site is not within a habitat conservation plan or a natural community conservation area (CDFW 2015; City of Los Angeles 1996). No impact would occur.

References

CDFW (California Department of Fish and Wildlife). 2015. *California Regional Conservation Plans* [map]. August 2015. Accessed January 7, 2016. https://www.wildlife.ca.gov/Conservation/Planning/NCCP.

City of Los Angeles. 1996. *North Hollywood – Valley Village Community Plan*. Updated May 14, 1996. Accessed September 11, 2015. http://planning.lacity.org/complan/valley/nhlpage.htm.

City of Los Angeles. 2015. Parcel Profile Report. Created July 21, 2015. http://navigatela.lacity.org/navigatela/.

3.11 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?	☐	☐	☐	☒

a) Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The Division of Mines and Geology (renamed the California Geological Survey in 2006) has mapped portions of the City within Mineral Resource Zone 2 for aggregate resources. Mineral Resource Zone 2 is defined as "areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood of their presence exists" (Division of Mines and Geology 1979). The Proposed Project site is located within Mineral Resource Zone 2 and is therefore located in an area with known mineral resources identified by the state. However, no active mine operations are present on or in the vicinity of the Proposed Project site. Additionally, the Proposed Project site has been used for groundwater pumping, water treatment, and water distribution purposes for several decades and is surrounded by an established park and a freeway. Beyond the park and freeway are commercial areas and dense residential neighborhoods. The existing and surrounding land uses of the Proposed Project site would preclude the site from being used for mineral extraction purposes. As such, the addition of water treatment equipment to the site would not cause a loss in availability of a mineral resource. No impact would occur.

b) Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The City of Los Angeles has also identified the Proposed Project site as being within an area containing significant mineral deposits (City of Los Angeles 1996). However, as discussed in Section 3.11(a), the Proposed Project site has been used for groundwater pumping, water treatment, and water distribution purposes for several decades and is surrounded by an established park and a freeway, beyond which are dense residential neighborhoods. These existing land uses would generally preclude establishment of mineral extraction activities at the Proposed Project site. Furthermore, the addition of water treatment equipment to a site that is already used for water-related purposes would not result in a loss of availability of a known locally important mineral resource recovery site. No impact would occur.

References

Division of Mines and Geology. 1979. *Mineral Land Classification Map – Aggregate Resources Only.* Van Nuys Quadrangle. May 25, 1979. Accessed April 21, 2016. http://www.quake.ca.gov/gmaps/WH/smaramaps.htm.

City of Los Angeles. 1996. Figure GS-1 in *Los Angeles Citywide General Plan Framework EIR*. Prepared by Envicom Corporation. June 1996. Accessed December 22, 2015. http://cityplanning.lacity.org/housinginitiatives/housingelement/frameworkeir/FrameworkFEIR.pdf.

3.12 Noise

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒	☐
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 expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

a) Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. The City of Los Angeles regulates noise through several sections of its municipal code. These include Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited), which establishes time prohibitions on noise generated by construction activity; Section 112.04 (Powered Equipment Intended for Repetitive Use in Residential Areas and Other Machinery, Equipment and Devices), which prohibits the use of loud machinery and/or equipment within 500 feet of residences

and prohibits noise from machinery, equipment, or other devices that would result in an increase of more than 5 decibels (dB) above the ambient noise level at residences; and Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools), which establishes maximum noise levels for powered equipment and powered hand tools (i.e., 75 A-weighted decibels [dBA] at a distance of 50 feet for construction, industrial, and agricultural equipment between the hours of 7:00 a.m. and 10:00 p.m.). According to Section 41.40, no construction activity that might create loud noises in or near residential areas or buildings shall be conducted between the hours of 9:00 p.m. and 7:00 a.m. on weekdays, before 8:00 a.m. or after 6:00 p.m. on Saturday and national holidays, or at any time on Sunday.

Existing Noise Levels

Currently, the Proposed Project site generates noise associated with the existing NHW well field operations and maintenance vehicles entering and exiting the site. Additionally, the Proposed Project site and surrounding area is subject to traffic noise associated with adjacent roadways, including Vanowen Street, Whitsett Avenue, and the SR-170 freeway, as well as aircraft overflight noise.

Noise measurements were conducted on and near the Proposed Project site on April 13, 2016, to characterize the existing noise environment. The noise measurements were made using a Piccolo Integrating Sound Level Meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute (ANSI) standard for a Type 2 (General Use) sound level meter. The calibration of the sound level meter was verified before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Three noise measurement locations (M1 through M3), which represent key potential sensitive receptors or sensitive land uses, were selected adjacent to, or near, the Proposed Project site. The noise measurement locations are shown on Figure 3.12.1 and the average noise levels at the three measurement locations are provided in Table 3.12-1. As shown in Table 3.12-1, existing energy-averaged noise levels (L_{eq}) range from 71.4 to 73.4 dBA on site and at locations adjacent to the Proposed Project. The primary noise sources consisted of traffic along the SR-170 and from adjacent roads as well as aircraft overflights toward Hollywood Burbank Airport.

SOURCE: Bing Maps, 2015

FIGURE 3.12-1

Noise Measurement Locations

North Hollywood West Well Field Water Treatment Project

Table 3.12-1
Measured Noise Levels

Receptors	Location/Address	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
M1	Project Site; 12403 Vanowen Street Los Angeles, California 91605	April 13, 2016	8:51 a.m.–9:06 a.m.	73.4	85.5
M2	Whitsett Fields, 12455 Vanowen Street Los Angeles, California 91605	April 13, 2016	9:28 a.m.–9:43 a.m.	71.4	84.6
M3	Golden State Apartments; 6961 Whitsett Avenue North Hollywood, California 91605	April 13, 2016	10:09 a.m.–10:24 a.m.	72.1	87.6

Source: Appendix E.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval.

Short-Term Construction Noise

Active construction is anticipated to take about 12 months to complete, beginning in mid-2018. During construction of the Proposed Project, site preparation; piping, conduit, and concrete installation; equipment installation; and erection of structures for the Proposed Project would involve the use of standard construction equipment such as loaders, dozers, dump trucks, soil compaction equipment, concrete pump, crane, and lattice boom crane. A complete list of equipment involved in these phases is included in Appendix A. The maximum number of workers anticipated during any construction phase would be 20 construction workers, which would occur during the installation of piping and conduit phase. Construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment) would not be necessary for construction of the Proposed Project.

The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is depicted in Table 3.12-2. The noise values represent maximum noise generation, or full-power operation of the equipment. As an example, a loader and two dozers, all operating at full power and relatively close together, would generate a maximum sound level of approximately 90 dBA at 50 feet from their operating locations. As one increases the distance between equipment, and/or the separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of separate noise sources added together. In addition, typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. The average noise level during construction activity is generally lower, since maximum noise generation may only occur up to 50% of the time.

Table 3.12-2
Construction Equipment Maximum Noise Emission Levels

Equipment	Typical Sound Level (dBA) 50 Feet from Source
Roller	74
Concrete vibrator	76
Pump	76
Saw	76
Backhoe	80
Air compressor	81
Generator	81
Compactor	82
Concrete pump	82
Crane, mobile	83
Concrete mixer	85
Dozer	85
Grader	85
Impact wrench	85
Loader	85
Pneumatic tool	85
Jackhammer	88
Truck	88
Paver	89

Source: FTA 2006.

The nearest off-site sensitive receptors to the Project boundary are the residential developments west and south of the Proposed Project site. The Whitsett Fields property on the northern, southern, and western side of the Project site share the same property line boundary and are active sports fields not normally considered a sensitive receptor relative to noise. The closest residential development is located approximately 300 feet from the nearest point of planned construction. Average noise levels from conventional construction activities (with a typical number of three to four pieces of equipment operating on the site) range from approximately 75 to 86 dBA L_{eq} at a distance of 50 feet. Due to improvements in construction equipment silencing technology, these sound levels are 3 dB lower than the noise levels reported in the 1971 reference study (U.S. Environmental Protection Agency 1971). Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity. Whitsett Fields is located immediately adjacent to the Proposed Project site, and no construction would occur on park land. Construction would be separated from surrounding uses by protective fencing that would provide some set-back of construction activities from park users. Assuming a 50-foot minimum distance between park users at Whitsett Fields and the nearest point of planned construction, average noise levels would

be as high as 75 to 86 dBA L_{eq}. However, the construction use would be intermittent on a daily basis and overall short-term in duration. At a distance of approximately 300 feet (the approximate distance from the nearest point of planned construction to the multi-family residences to the west), construction noise levels would be approximately 17 dBA lower, ranging from approximately 58 to 69 dBA L_{eq}. These levels are below the existing ambient levels (Table 3.12.-1) at the residences.

The City regulates construction noise by restricting the allowable hours of construction. Consistent with Section 41.40 of the City's Municipal Code, the Proposed Project construction activities would generally occur only on weekdays and, on those days, would be limited to between the hours of 7:00 a.m. and 6:00 p.m. Although not anticipated, if occasional Saturday work were required, it would not commence before 8:00 a.m., and it would cease by 6:00 p.m. in compliance with Section 41.40. No construction work would occur on Sundays or national holidays. Short-term construction activities would cease upon construction completion. As such, impacts related to proposed construction noise would be less than significant.

Long-Term Operational Noise

Noise sources associated with operation of the Proposed Project would include electric motors associated with the 1,4-dioxane treatment systems. Some of the proposed equipment would be enclosed (i.e., the UV lamps and the hydrogen peroxide storage tanks), thus minimizing noise levels. To obtain representative source noise data, noise measurements were conducted at a water treatment facility (the Orange County Water District's enhanced water treatment facility in Fountain Valley, California) which incorporates hydrogen peroxide quenching and UV treatment, followed by bio filtration, to obtain representative source noise data. The UV reactors themselves were found to have quite low noise levels; the noise from this equipment was barely audible compared to the noise from the associated decarb units (filtration), which were located adjacent to the UV reactors. The noise from the decarb units (which are similar in operation to the GAC units that would be utilized under the Proposed Project) and the UV Reactors was 69 dBA at a distance of 25 feet. At a distance of approximately 300 feet (the distance to the nearest residences at NHW), the corresponding noise level from the equipment would be approximately 46 dBA $L_{eq,}$ which would be well below the ambient noise levels. Based on this comparative analysis, the noise from the proposed remediation equipment would not substantially increase ambient noise levels (i.e., not greater than 5 dBA) and would not result in an exceedance of City of Los Angeles Municipal Code noise standards.

Although noise would be produced from the operation of the proposed equipment, the Proposed Project site is located adjacent to the SR-170 and away from residential land uses.

Noise from the new 1,4-dioxane equipment, when considered in conjunction with existing groundwater well pumps, the dominance of traffic noise along SR-170, and noise from aircraft overflights, would be a minimal addition of noise that would be less than significant.

Operation of the Proposed Project would require minimal maintenance activities and minimal to no on-site personnel. Once per month, the hydrogen peroxide storage tank would be refilled. This would involve one round-trip truck trip per month and would require two personnel. Hydrogen peroxide would be transferred from the truck to the on-site storage tank. The lamps in the UV reactors would be replaced every 12,000 hours. Assuming that all lamps in the nine main reactors are running continuous and simultaneously, the lamps would be changed about every 16 months. Lamp replacement would involve one roundtrip truck trip and would require two personnel. The GAC would be replaced once every 5 years. During the GAC replacement process, the GAC media would be would be removed from the vessels by vacuum truck and transported to an appropriate disposal facility. This would involve four workers and six truck trips over a period of 5 days. The truck and personnel trips during Project operation would not create a perceptible increase in ambient noise levels as the number of vehicle trips would be minimal. As such, noise impacts during operations would be less than significant.

b) Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedures and the type of construction equipment operated. Construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effects on buildings (i.e., building damage) are dependent on the location of the buildings to the source and the characteristic of the building structure.

During construction, the heavier pieces of construction equipment used at the Proposed Project site would include dozers, cranes, and loaders. Groundborne vibration studies from the California Department of Transportation (Caltrans) indicate that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to cause annoyance (Caltrans 2004). Groundborne vibration is typically attenuated over short distances (typically on the order of 25 feet). At a distance of 25 feet from the project site, there would be no significant vibration impact on Whitsett Fields. Similarly, the vibration impacts at the nearest residential development (multi-family residences, located approximately 300 feet from the nearest Project construction activities) would fall well below (0.002 inches/second) the Caltrans threshold. Therefore, construction activities

would not result in continuous vibration levels that typically annoy people, and the vibration impacts to nearby sensitive receptors would be less than significant.

c) Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Less Than Significant Impact. See discussion in Section 3.12(a). The operation of 1,4-dioxane treatment equipment, along with truck and personnel trips during Project operation, would not create an increase of 5 dBA or more in ambient noise levels at sensitive receptor locations. Accordingly, noise impacts during operations would be less than significant.

d) Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Less Than Significant Impact. See discussion in Section 3.12(a). Short-term construction activities would cease upon construction completion and would not occur near sensitive receptors. Impacts would be less than significant.

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 expose people residing or working in the Project area to excessive noise levels?

Less Than Significant Impact. The Proposed Project site is located approximately 2.0 miles west of the Hollywood Burbank Airport and is not within the Los Angeles County Airport Influence Area. The Proposed Project site is located outside of the Airport Land Use Plan's 65 dBA community noise equivalent level noise contour (Los Angeles County Airport Land Use Commission 1991, Revised 2004), and thus aircraft related noise would not expose people in the Project area to excessive noise levels. Furthermore, the Proposed Project would not include occupied facilities that would expose people to excessive noise levels related to aircraft use. Impacts would be less than significant.

f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?

No Impact. The Proposed Project site is not located within the vicinity of a private airstrip. Accordingly, no impacts related to exposing people residing or working in the Proposed Project area to excessive noise levels within the vicinity of a private airstrip would occur.

References

Caltrans (California Department of Transportation). 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. June 2004.

FTA (Federal Transit Administration). 2006. *Traffic Noise and Vibration Impact Assessment*. May 2006.

Los Angeles County Airport Land Use Commission. 1991. *Los Angeles County Airport Land Use Plan*. Accessed May 3, 2016. http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf. Adopted December 19, 1991. Revised December 1, 2004.

3.13 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 housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Would the Project 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)?

No Impact. The Proposed Project does not include construction of new homes or businesses or the extension of roads or other infrastructure that would induce population growth.

The Proposed Project would restore existing water resources that have been contaminated or are threatened with contamination by 1,4-dioxane in the groundwater basin. With Project implementation, groundwater supply would be restored, which would help offset the need for imported water supplies, thereby supplementing the City of Los Angeles' local potable water supply and increasing system reliability and sustainability. Because

the Proposed Project would help offset existing imported supplies, it would not increase overall water supplies to the City in a manner that would induce population growth. The Proposed Project would not affect or increase LADWP's entitlement of groundwater, and therefore, would not result in the development of a new water source. Therefore, the Proposed Project would not indirectly induce population growth through the provision of additional water supply.

Due to the relatively low number of personnel required for Project construction and the expected relatively short duration of construction, workers would be drawn from local communities, and no population growth in the area would occur. The operation of the Proposed Project would not require a substantial number of new employees and thus would not induce population growth or the need for new housing in the area. No impact would occur relative to population growth.

b) Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no existing housing within the Proposed Project site, and the Proposed Project would not involve removal of any housing. No impact would occur.

c) Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The Proposed Project involves the installation of water treatment equipment on a site that is currently used for groundwater pumping, water treatment, and water distribution purposes. The addition of water treatment equipment to this site would not displace people. No impact would occur.

3.14 Public Services

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

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:

Fire protection?

No Impact. Fire protection for the Proposed Project site is provided by the Los Angeles Fire Department, and the monitoring of operations is provided by LADWP. The Proposed Project would not generate a requirement for additional fire protection services. No impact would occur.

Police protection?

No Impact. Police protection for the Proposed Project site is provided by the Los Angeles Police Department and LADWP security personnel. The property is enclosed with fencing and would continue to be enclosed with fencing upon Project implementation. Both site entrances have a locked gate. The Proposed Project would not generate a requirement for additional police protection. No impact would occur.

Schools?

No Impact. The Proposed Project involves the installation of equipment to remove 1,4-dioxane from groundwater on a site that is currently used for groundwater pumping, water treatment, and water distribution purposes. No feature of the Proposed Project would directly generate a demand for school services, nor would the Proposed Project lead directly or indirectly to substantial population growth such that new or physically altered school facilities would be required. No impact would occur.

Parks?

No Impact. The Proposed Project is the installation of equipment to remove 1,4-dioxane from groundwater on a site that is currently used for groundwater pumping, water treatment, and water distribution purposes. The Proposed Project site is located adjacent to a park; however, neither construction nor operation of the Proposed Project would reduce the area of the park or otherwise affect the ability of people to use the park. Conversely, no feature of the Proposed Project would directly generate a demand for parks, nor would the Proposed Project lead directly or indirectly to substantial population growth such that new or physically altered park facilities would be required. As such, the

Proposed Project would not alter the service ratios of parkland in the City and would not result in the need for new or physically altered park facilities. No impact would occur.

Other public facilities?

No Impact. The Proposed Project is the installation of equipment to remove 1,4-dioxane from groundwater on a site that is currently used for groundwater pumping, water treatment, and water distribution purposes. No new housing or businesses would be constructed as part of the Proposed Project, nor would the Proposed Project directly or indirectly induce population growth in the area such that new or physically altered governmental facilities would be required to adequately provide services. No impact would occur.

3.15 Recreation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

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. Neither the construction nor operation of the Proposed Project would generate any additional population that would increase the use of existing neighborhood or regional parks or other recreational facilities. While the Proposed Project site is adjacent to a park, placement of additional water treatment equipment on the Proposed Project site would not cause more people to use this park, such that the park would undergo substantial deterioration. As such, no impact would occur.

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 Proposed Project is the installation of water treatment equipment on a site that is currently used for groundwater pumping, water treatment, and water distribution purposes. It does not include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment. No feature of the Proposed Project would directly generate a demand for parks, nor would the Proposed Project lead directly or indirectly to substantial population growth such that the construction or expansion of recreation facilities would be required.

3.16 Transportation and Traffic

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 results 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?	☐	☐	☐	☒

a) Would the Project 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?

Less Than Significant Impact. Measures of effectiveness for the performance of the circulation system in the City are established by the City of Los Angeles Department of Transportation (LADOT) in the *City of Los Angeles Traffic Study Policies and Procedures*. Policies for non-motorized travel are addressed in Section 3.16(f). Measures of effectiveness for the vehicular circulation system are based on the volume to capacity ratio and level of service (LOS) of intersections and roadways within the City. Potential impacts to intersections and roadway segments are analyzed based on projected future traffic conditions plus Project-generated traffic. Impacts to intersections and street segments are measured in terms of increases in volume to capacity ratio, the significance of which is based on the future projected LOS. LADOT typically requires a traffic study for projects that are likely to add 500 or more daily trips or likely to add 43 or more AM or PM peak hour trips. LADOT requires that a technical memorandum be prepared for projects that are likely to add 25 to 42 AM or PM peak hour trips and the adjacent intersection(s) are presently estimated to be operating at LOS E or F (LADOT 2014).

Construction

Average daily one-way trips that would occur during construction are summarized in Table 3.16-1. It has been assumed that each construction worker would drive to and from the site without carpooling and would arrive within the morning peak hour and depart within the evening peak hour. This is considered a worst-case scenario, since some construction workers may carpool and may arrive or depart the site outside of peak traffic hours. As shown in the table, the truck trips have been multiplied by a passenger car equivalent value of 2.5 car trips per truck trip to account for the greater traffic impact of trucks. It has been assumed that the truck trips would be evenly distributed throughout the day, with some occurring during peak hours. While the number of worker and truck trips may vary between months, Table 3.16-1 reflects the number of trips that would occur during the most trip-intensive month of construction. (This is anticipated to occur during the piping, conduit, and concrete installation phase starting in mid-2018).

Table 3.16-1
Construction Trips

Generator	Daily One-Way Trips	Weekday AM (in) Trips	Weekday PM (out) Trips
Worker	34	17	17
Truck	25 PCE (10 truck trips)	4 (PCE)	4 (PCE)
Total	**59**	**21**	**21**

PCE = passenger car equivalent.

As shown in Table 3.16-1, the temporary construction traffic that would be generated by the Proposed Project would be minimal and would be below the thresholds for further analysis that are established by LADOT. Furthermore, the estimated increase in traffic would be minor and temporary. Construction of the Proposed Project would not cause an increase in traffic that is substantial in relation to the context of the region, vicinity, and local roadways that provide access to the site. As such, impacts related to applicable policies establishing effectiveness for intersections and roadways would be less than significant during construction.

Operation

Operation of the Proposed Project would require minimal maintenance activities and minimal to no on-site personnel. Operational activities that currently occur at the site, such as routine water quality sampling, would continue to occur after Project implementation. However, there are three key operational functions that would occur upon Project implementation that do not currently occur at the site: hydrogen peroxide deliveries, UV lamp replacement, and GAC replacement. These activities would occur infrequently and would not generate a substantial number of new trips.

Once per month, the hydrogen peroxide storage tank would be refilled. This would involve one truck round-trip per month and would require two personnel. The lamps in the UV reactors would be replaced every 12,000 hours. Assuming that all lamps in the reactors are running continuous and simultaneously, the lamps would be changed about every 16 months. Lamp replacement would involve one truck round-trip and would require two personnel. The GAC is anticipated to be replaced once every 5 years. During the GAC replacement process, the GAC would be removed from the vessels by vacuum truck and transported to an appropriate waste facility. This is assumed to involve four workers and a total of 15 truck round-trips over a period of 5 days (an average of 3 round trips per day). Table 3.16-2 shows the expected number of daily trips associated with each of these new operational tasks. The number of trips shown in Table 3.16-2 were calculated based on the conservative assumption that each employee would drive to and from the site without carpooling and that each employee and the delivery trucks would

arrive within the morning peak hour and depart within the evening peak hour. This is considered a worst-case scenario, since employees would likely use a single vehicle and the employees and trucks may arrive and depart the site outside peak traffic hours. It is not expected that any of these tasks would overlap (e.g., the hydrogen peroxide would not likely be delivered to the site while the GAC is being replaced). However, in the unlikely event that all three new operational tasks were to occur simultaneously, the number of trips would still fall below the City thresholds for further traffic impact studies.

Table 3.16-2
Operational Trips

Generator	Daily One-Way Trips	Weekday AM (in) Trips	Weekday PM (out) Trips
Hydrogen Peroxide Delivery (1 day, 1× per month)			
Worker	4	2	2
Truck	5 PCE (2 truck trips)	3 (PCE)	3 (PCE)
Total	**9**	**5**	**5**
UV Lamp Replacement (1 day, 1× per 16-month period)			
Worker	4	2	2
Truck	5 PCE (2 truck trips)	3 (PCE)	3 (PCE)
Total	**9**	**5**	**5**
GAC Replacement (5 days, 1× per 5-year period)			
Worker	8	4	4
Truck	15 PCE (6 truck trips)	8 (PCE)	8 (PCE)
Total	**23**	**12**	**12**

PCE = passenger car equivalent.

As shown in Table 3.16-2, the operational traffic that would be generated by the Proposed Project would be minimal and would be below the thresholds for further analysis, as established by LADOT. The estimated increase in traffic would be minor and would occur infrequently. Operation of the Proposed Project would not cause an increase in traffic that is substantial in relation to the context of the region, vicinity, and local roadways that provide access to the site. As such, impacts related to applicable policies establishing effectiveness of intersections and roadways would be less than significant during operation.

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

Less Than Significant Impact. According to the Los Angeles County traffic impact analysis guidelines, a congestion management plan (CMP) impact analysis must be

provided for any project that would add 50 or more trips to a CMP roadway segment during either the AM or PM peak hours, including freeway on-ramps and/or for any project that would add 150 or more trips, in either direction, at a mainline freeway monitoring location during either the weekday AM or PM peak hours. As shown in Table 3.16-1 and Table 3.16-2, neither construction nor operation would exceed these thresholds. Therefore, a CMP impact analysis is not required, and no conflict with congestion management or transportation management measures would occur. Impacts to the CMP highway system would be less than significant.

c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The Proposed Project would not result in a change in air traffic patterns. The construction and operation of the Proposed Project would not generate air traffic, and the Proposed Project would not include any structures of a height that could act as a hazard to aircraft navigation. No impact would occur.

d) 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 Proposed Project would not include the construction of any new off-site roads or the modification of any existing off-site roads, either for the purposes of long-term Project operations or to temporarily support Project construction. Construction of the Proposed Project would include truck deliveries of materials, components, and supplies to the site. A very limited number of oversize loads may be required to deliver large equipment to the site at the outset of construction and to remove the equipment after construction is completed. If oversize loads are needed, permits specifying route and time limits, as well as any necessary traffic control measures, would be required from state, county, and/or City agencies. General truck traffic is allowed on Vanowen Street and Whitsett Avenue and does not represent an incompatible use. These urban roads have good sight visibility and standard lane widths. Accordingly, no impact involving incompatible uses on roadways or hazardous roadway design features would occur.

e) Would the Project result in inadequate emergency access?

No Impact. The Proposed Project would not hinder emergency access in the area. No permanent or temporary road closures or modifications are proposed as part of the Proposed Project. All construction activities and staging would take place within the existing LADWP property. No incompatible uses on public roads would occur from either construction or operation of the Proposed Project. No impact would occur.

f) Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The Proposed Project would not conflict with adopted policies supporting alternative transportation. Construction activities would take place entirely within the LADWP property and would not remove, alter, or otherwise affect nearby non-vehicular transportation facilities, such as bus stops, bicycle lanes, or sidewalks. Similarly, operational activities would take place entirely within the site and would not preclude the use of nearby non-vehicular transportation facilities. For these reasons, the Proposed Project would not preclude the City from implementing policies and plans that have been adopted for transit, bicycle, or pedestrian facilities. Conversely, the Project's construction activities and operational activities would not generate additional transit riders, pedestrians, or bicyclists in the Project area such that the performance or safety of such facilities would become compromised by an increase in usage. The Proposed Project would not affect non-vehicular transportation systems in the area and, therefore, would not have the potential to conflict with adopted policies, plans, or programs that have been adopted for such systems. No impact would occur.

References

LADOT (City of Los Angeles Department of Transportation). 2014. *Traffic Study Policies and Procedures*. August 2014. Accessed April 28, 2016. http://cityplanning.lacity.org/EIR/8150%20Sunset/References/4.J.%20Transportation%20and%20Circulation/TRAF.03_LADOT%20Policies%20and%20Procedures_2013.pdf.

3.17 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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 on the California Register of Historical Resources, or included in a local	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
register of historical resources as defined in Public Resources Code section 5020.1(k), or,				
ii.) A resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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 on the California Register of Historical Resources, or included in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or,

No Impact. Based on the cultural resources records search, site survey, and contacts made to date, no archaeological resources have been identified within the Project site (Appendix D). Information received to date from Native American tribes indicates that the site does not include known elements of cultural tribal resources.

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

Less Than Significant with Mitigation Incorporated. The Proposed Project is subject to compliance with Assembly Bill (AB) 52 which requires consideration of

impacts to tribal cultural resources as defined in California Public Resources Code 21074 as part of the CEQA process, and requires LADWP to notify any groups who have requested notification of the Proposed Project who are traditionally or culturally affiliated with the geographic area of the Project. LADWP notified eight Native American individuals/organizations of the Proposed Project under AB 52. These contacts were initially identified by the Native American Heritage Commission as Native American individuals/organizations who are traditionally or culturally affiliated with the geographic area of the Proposed Project. These contacts were notified of the Proposed Project in a good faith effort to provide an opportunity to consult on tribal cultural resources and other matters of concern. Two of these contacts responded to the notification:

- Sedna Villavicencio, Tribal Historic and Cultural Preservation Department, Fernandeño Tataviam Band of Mission Indians
- Andrew Salas, Chairman, Gabrieleño Band of Mission Indians – Kizh Nation

Because AB 52 is a government-to-government process, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with LADWP. Implementation of MM-CUL-1, as described under Section 3.5(a), would ensure that impacts to tribal cultural resources are less than significant.

3.18 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the	☐	☐	☒	☐

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Project's projected demand in addition to the provider's existing commitments?				
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

a) Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. During operation, the proposed remediation treatment process would produce wastewater that would be disposed of in the City's sewer collection system, operated and maintained by Los Angeles Department of Public Works Bureau of Sanitation (LASAN). The closest public sewer line is an existing 15-inch sewer line located along Whitsett Avenue. Wastewater collected in the area is conveyed by interceptor lines and ultimately treated at City water reclamation plants, specifically, the Los Angeles–Glendale Water Reclamation Plant and the Hyperion Water Treatment Plant.

The main sources of wastewater from the Proposed Project site during operation of the Proposed Project would be from well purging and LPGAC vessel backwashing activities. Purging the wells (total flow of 7,400 gpm) for 30 minutes would produce about 222,000 gallons, and backwashing the 12 LPGAC vessels would produce about 300,000 gallons at a rate of 1,000 gpm for 25 minutes. LADWP has coordinated with LASAN to ensure the wastewater does not exceed the capacity of the existing sewer line in Whitsett Avenue. Accordingly, LASAN stipulated that the rate of contribution of wastewater to the sewer pipeline must be limited to 139 gpm so as to prevent impacting line capacity. LADWP proposes to use Baker tanks of sufficient capacity to collect the total discharge from either well purging or GAC backwashing, and to regulate the flow of wastewater into the public sewer line. Based on the volume related to backwashing the LPGAC vessels (300,000 gallons), the wastewater collected in the Baker tanks could be emptied in period of about 36 hours at a discharge rate of 139 gpm. During other periods, virtually no wastewater would be generated. Consequently, it is feasible to operate the proposed wastewater collection and disposal system without exceeding the capacity of the sewer line in Whitsett Avenue. No impact would occur.

Because wastewater discharges associated with the Proposed Project would be process water discharges rather than conventional sanitary sewer discharges, the Proposed Project will be subject to the Industrial Waste Control Ordinance (Section 64.30 of the Los Angeles Municipal Code), and LADWP will be required to coordinate with LASAN to ensure the process wastewater is of suitable quality to be conveyed and treated at the regional water reclamation facilities operated by Los Angeles Sanitation. The Industrial Waste Control Ordinance requires certain dischargers of industrial wastewater to first obtain an Industrial Wastewater Permit, unless the Proposed Project falls under one of the exceptions outlined by LASAN. Compliance with industrial wastewater permits protects the City's sewer collection and treatment systems, prevents regulated toxic wastewater constituents from passing through to receiving waters, and ensures that applicable federal or state statutes, rules, or regulations are adhered to (LASAN 2016).

LADWP would satisfy requirements for industrial waste discharge through consultation with LASAN's Industrial Waste Management Division. Compliance with the provisions of the permit would ensure that the Project would not result in violation of wastewater treatment requirements. Compliance with Section 64.30 of the Los Angeles Municipal Code, including any Project-specific permit requirements that may be imposed by the Industrial Waste Management Division, would ensure that the wastewater from the Proposed Project would not cause exceedances of wastewater discharge requirements. Impacts would be less than significant.

b) Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The Proposed Project would involve construction of new treatment facilities to remove 1,4-dioxane from groundwater at the NHW well field. As described throughout Section 3, the environmental impacts of the Proposed Project are not significant. Relative to utilities and service systems, routine maintenance activities would result in water use and wastewater generation. LPGAC vessel backwashing and well purging would result in short-term wastewater flows of up to 139 gpm during an approximate 36-hour period. This rate of wastewater generation would be minor in the context of the wastewater treatment capacities of Los Angeles–Glendale Water Reclamation Plant and Hyperion Water Treatment Plant, which process an average of 20 million gallons of wastewater per day and 450 million gallons of wastewater per day, respectively (LASAN 2016). One well-purging event would represent approximately 1.3% of the wastewater that is processed daily at the Los Angeles–Glendale Water Reclamation Plant, and one backwashing event would represent approximately 1.5% of this plant's daily influent. As such, the amount of wastewater produced by the Proposed

Project would be minor relative to the amount of water that is processed at LASAN facilities. The relatively small amounts of water and wastewater related to periodic Project maintenance activities would not require new water or wastewater treatment facilities. Impacts would be less than significant.

c) Would the Project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The Proposed Project would not generate substantial increased stormwater runoff, such that new stormwater drainage facilities or facility expansion would be required. As described in Sections 3.9(c) and 3.9(d), the proposed water treatment equipment would slightly increase the impervious area on the facilities site. However, this minor increase in impervious area would not have a substantial effect on the amount of stormwater runoff that would come from the site. Further, the Proposed Project would comply with the City of Los Angeles Low Impact Development Ordinance, which requires management of stormwater on site, including measures to capture and infiltrate stormwater into pervious surfaces.

The Proposed Project would therefore not require the construction or expansion of off-site stormwater drainage facilities, because it would not contribute a substantial amount of new stormwater runoff relative to existing conditions. As such, impacts would be less than significant.

d) Would the Project have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. LADWP has completed groundwater modeling to determine the volume of groundwater pumping that is required to remove 1,4- dioxane contaminant mass and contain the 1,4-dioxane plume located upgradient of the NHW wells. The Proposed Project would not exceed the rated capacity of the wells or the existing entitlements; therefore, no new or expanded entitlements would be needed. As such, no impact would occur.

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

Less Than Significant Impact. As described in Section 3.17(a), wastewater generated by the Proposed Project would be treated at the Los Angeles–Glendale Water Reclamation Plant and the Hyperion Water Treatment Plant. The Proposed Project would generate wastewater during maintenance activities. However, these maintenance

activities would be conducted infrequently, would be relatively short events (half-hour), and the amount of wastewater generation would be negligible in the context of the wastewater treatment capacities of Los Angeles–Glendale Water Reclamation Plant and Hyperion Water Treatment Plant. Therefore, the Proposed Project would not compromise the capacity of the plants. As such, impacts would be less than significant.

f) Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Less Than Significant Impact. Construction activities would generate construction waste, such as equipment packaging, construction scrap, and debris. In accordance with the City's Construction and Demolition Debris Recycling Ordinance, construction would incorporate source reduction techniques and recycling measures and would maintain a recycling program to divert waste. These measures would minimize the amount of construction debris generated by the Proposed Project that would need to be disposed of in an area landfill. Any non-recyclable and hazardous construction waste generated would be disposed of at a landfill approved to accept such materials.

Project operation would result in additional sources of solid waste at the site. Approximately once every 5 years, the GAC in the LPGAC vessels would be replaced. The spent GAC, which is considered non-hazardous, would be transported to a facility that is approved to accept and/or process such materials, or would be disposed of in a landfill.

Approximately once every 16 months, the UV lamps would be replaced. The spent UV lamps would be transported to a facility that is approved to accept and process such materials. For example, components containing mercury and other metals used in the manufacture of the lamps would be removed prior to disposal in a landfill. This operational waste would be generated infrequently (i.e., once every 1 to 5 years) and would not involve significant waste volumes. Further, the substances that would be disposed (GAC and UV lamps) would be processed at specialized facilities and would not affect the capacities of Los Angeles County landfills. As such, while some solid waste would be generated by Project operations, impacts would be less than significant.

g) Would the Project comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. In accordance with standards and as required by regulation and law, LADWP would comply with federal, state, and local solid waste diversion, reduction, and recycling mandates. No impact would occur.

References

LASAN (Los Angeles Sanitation). 2016. "Clean Water," "Los Angele–Glendale Water Reclamation Plant," "Hyperion Reclamation Plant," and "Required Permit and Reporting." Webpage. Accessed May 2, 2016. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw?_adf.ctrlstate=pqnbfcqbi_63&_afrLoop=24038877197621042#.

LASAN (Los Angeles Sanitation). 2015. *City of Los Angeles Sewer System Management Plan for the Regional Sanitary* Sewer. February 2015. Accessed May 2, 2016. http://www.lasewers.org/ssmp/pdfs/SSMP_LA_Regional.pdf.

3.19 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated. The Proposed Project site has been used for groundwater pumping, water treatment, and water distribution purposes for several decades. The site is highly disturbed, partially developed, and is located in an urbanized area. The proposed addition of water remediation equipment to the site would not degrade the quality of the environment, as it would occur on a site that is already used for groundwater pumping, water treatment, and water distribution purposes. As described in Section 3.4 of this MND, two special-status species (Cooper's hawk and pallid bat) and trees protected under the City of Los Angeles Protected Tree Ordinance would have the potential to be affected during construction of the Proposed Project. Additionally, migratory birds would have the potential to be disturbed by construction activities. However, Cooper's hawk, other nesting and migratory birds, and pallid bat would be protected via compliance with the Migratory Bird Treaty Act and through implementation of MM-BIO-1 and MM-BIO-2. Potential impacts on the protected trees that are situated adjacent to the Project site would be reduced to less than significant through implementation of MM-BIO-3. For these reasons, the Proposed Project would not have the potential to 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

As described in Section 3.5 of this MND, the Proposed Project site does not support any important examples of major periods in California history. While there are no known important examples of California prehistory on the Proposed Project site, there is the potential for previously unknown resources to be encountered on the site during the minor ground disturbing activities associated with construction of the Proposed Project. The construction practices described in Section 3.5, including the implementation of MM-CUL-1, would ensure that such resources would be protected, in the event that they were unexpectedly discovered on the Proposed Project site. Therefore, impacts to California prehistory would be less than significant.

b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant with Mitigation Incorporated. The Proposed Project would not result in substantial changes to the existing surface conditions of the Proposed Project site. The proposed construction activities would be limited to the boundaries of the Proposed Project site, and as shown in Section 3.3, Air Quality, Section 3.12, Noise, and Section 3.16, Transportation and Traffic, in this MND, the temporary construction activities would not generate substantial air emissions, noise, or traffic. As such, Project construction would not result in cumulatively considerable impacts in those categories. Because the site is already disturbed and is currently used for groundwater pumping, water treatment, and water distribution purposes, substantial, adverse effects relative to aesthetics, biological resources, and cultural resources are not anticipated. Implementation of MM-BIO-1, MM-BIO-2, and MM-BIO-3 would further ensure that the Proposed Project would not contribute to cumulative effects on special-status species or protected trees in the City. Operation of the Proposed Project would involve the operation and maintenance of equipment to remove 1,4-dioxane from groundwater at the site. Removal of these contaminants would minimize the spread of contaminant mass, limit further degradation of the groundwater basin directly downgradient of the NHW wells, remove contaminant mass from the aquifer, assist in the restoration of beneficial uses of the groundwater basin, prevent the ingestion of groundwater that exceeds cleanup levels, and restore LADWP's capability to operate its existing NHW Well Field in a flexible manner consistent with historic and planned use.

Maintenance requirements would be minimal and are characterized in Section 2.4 of this MND. As explained in Section 3.13, the Proposed Project would not result in a population change in the City. As such, resources that can be affected by population growth, such as public services and recreational facilities, would not be substantially affected by the Project. Because operational activities would be minimal, the Project's operational noise impacts, traffic impacts, and air quality impacts would not result in cumulatively considerable impacts.

Operation of the Proposed Project would involve use of energy to extract pollutants from groundwater, and periodic generation of wastewater. Energy use would have the potential to contribute to global climate change, as explained in Section 3.7. Though global climate change is by its very nature cumulative, the Proposed Project's cumulative contribution to global climate change was determined to be less than significant. As explained in Section 3.9, the groundwater extraction from the SFB is limited by court-defined rights

and the Project would not expand the pumping abilities of the NHW well field beyond the City's existing pumping entitlements. Accordingly, the Proposed Project would not have a cumulatively considerable effect on groundwater supply.

The Proposed Project's wastewater discharges would be subject to the Industrial Waste Control Ordinance (Section 64.30 of the Los Angeles Municipal Code). Compliance with this ordinance may involve coordination with LASAN to ensure the Proposed Project's processed wastewater is of suitable quality to be conveyed and treated at the regional water reclamation facilities. Coordination with LASAN would ensure that the Project's wastewater discharges do not combine with other wastewater discharges in the City to create a violation of any waste discharge requirements. Cumulative impacts would be less than significant.

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 analysis presented in this document does not identify significant adverse impacts on human beings. The impacts were characterized as absent or less than significant. Therefore, the Proposed Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

4 REPORT PREPARERS

Lead Agency

Los Angeles Department of Water and Power
Environmental Affairs
111 North Hope Street, Room 1044
Los Angeles, California 90012

Charles C. Holloway, Manager of Environmental Planning and Assessment
Nadia Parker, Project Manager
Kurt Wells, Manager of Groundwater Remediation Planning
Todd Rother, Groundwater Remediation Planning Engineer

Technical Assistance Provided By

Dudek
38 North Marengo Avenue
Pasadena, California 91101

Contributors

Eric Wilson, Principal
Thom Ryan, Senior Project Manager
Nicole Cobleigh, Project Manager
Michele Webb, Environmental Analyst/Assistant Project Manager
Mike Greene, INCE, Noise Specialist/Acoustician
Jennifer Reed, Project Manager, Air Quality and Greenhouse Gases
Matthew Morales, Air Quality and Greenhouse Gases Specialist
Dylan Duvergé, Hydrologist/Water Quality Specialist
Samantha Murray, RPA, Archaeologist/Architectural Historian
Adriane Dorrler, Archaeologist
Curtis Battle, GIS
Devin Brookhart, Publications Specialist Lead
Jeffrey Fenner, Environmental Consultant

APPENDIX CEQA+

Drinking Water State Revolving Fund Application

State of California
State Water Resources Control Board
Drinking Water State Revolving Fund Application - Assessment of Compliance with Federal Laws

Introduction

The State Water Resources Control Board (State Water Board) provides financial assistance through the Drinking Water State Revolving Fund (DWSRF) Program. The Los Angeles Department of Water and Power (LADWP) may potentially apply for financial assistance for the proposed North Hollywood West Well Field Water Treatment Project through the DWSRF Program. The State Water Board uses the California Environmental Quality Act (CEQA) review process and compliance with federal environmental laws and regulations to satisfy the environmental requirements of the DWSRF Program Operating Agreement between the United States Environmental Protection Agency and the State Water Board. As a result, and in addition to the CEQA review process, federal cross-cutting requirements are often a part of the environmental review for projects that are funded through the DWSRF Program. Therefore, applications for funding must include proof of CEQA compliance and of compliance with federal requirements. Collectively, the process is termed "CEQA+" due to the addition of federal cross-cutting studies to CEQA requirements.

As required by the State Water board, an application for the DWSRF Program must include the Environmental Package form that constitutes this CEQA+ Appendix. The attached Environmental Package form has been compiled in the event that DWSRF Program funding is requested by LADWP for this Project. Required attachments to this form, which will be submitted to the State Water Board if funding is requested, will include the completed Mitigated Negative Declaration and its associated appendices. Several of these appendices are specifically referenced throughout the attached form.

Print Save

ENVIRONMENTAL PACKAGE (CONSTRUCTION)

Applicant (Entity) Name: Los Angeles Department of Water and Power

Project Title: North Hollywood West Well Field Water Treatment Project

Project Number:

Contact Person: Nadia Parker **Phone:** (213) 367-1745

Is the applicant or any other public agency acting as lead agency for the preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA) for this project? ☐ No ☒ Yes

If **yes**, please indicate the lead agency*: Los Angeles Department of Water and Power

* If the CEQA lead agency has not been identified, please contact the Environmental Review Unit for guidance.

I. CEQA STATUS

Please check the box that describes the project in this application.

☒ The CEQA process has not yet started for this project OR is underway.

☐ The CEQA process is complete for this project. (**complete Section II - CEQA Documents below**)

☐ The CEQA process was completed for this project more than 5 years from the date the Environmental Package was submitted.** (**complete Section II - CEQA Documents below**)

******* *If the CEQA document was prepared more than five years from the date the Environmental Package was submitted, please provide an updated CEQA document (subsequent, supplemental or addendum) that evaluates the current environmental status of the project.*

II. CEQA DOCUMENTS (Complete this section only if the CEQA process has been completed for this project)

Identify the State Clearinghouse Number assigned to the CEQA document (all projects must be circulated for public review at the Office of Planning and Research, State Clearinghouse): **SCH#** _____

Please check all box(es) that describe this application and submit the required attachments for the applicable column.

☐ Project is covered under a an CEQA Categorical or Statutory Exemption (**complete Column A below and Section III**)

☐ Project is covered under a Negative Declaration (**complete Column B below and Section IV**)

☒ Project is covered under a Mitigated Negative Declaration (**complete Column C below and Section IV**)

☐ Project is covered under Environmental Impact Report (**complete Column D below and Section IV**)

Required Attachments	Column A	Column B	Column C	Column D
Section IV - EVALUATION FORM FOR FEDERAL ENVIRONMENTAL COORDINATION AND SUPPORTING ATTACHMENTS 1.1 - 1.13				
E1 - FINAL INITIAL STUDY/NEGATIVE DECLARATION (IS/ND)				
E2 - FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND)				
E3 - FINAL ENVIRONMENTAL IMPACT REPORT (EIR)				
E4 - COMMENTS AND RESPONSES				
E5 - STATEMENT OF OVERRIDING CONSIDERATION (If Applicable)				
E6 - MITIGATION MONITORING AND REPORTING PLAN/PROGRAM (MMRP)				
E7 - RESOLUTION/MINUTES APPROVING THE CEQA DOCUMENT(S)				
E8 - NOTICE OF EXEMPTION				
E9 - NOTICE OF DETERMINATION AND DEPARTMENT OF FISH AND WILDLIFE CEQA FILING FEE RECEIPT				

III. CEQA Exemption Information (Only complete if a Notice of Exemption has been filed with the Office of Planning and Research, State Clearinghouse and the County Clerk's office.)

REASONS WHY THE PROJECT IS CONSIDERED EXEMPT FROM CEQA

PROJECT DESCRIPTION:

Check appropriate box(es)

CATAGORICAL EXEMPTIONS (CCR Title 14, Sections 15300 et seq. and CCR, Title 22, Section 60101, Specific activities within categorical exemptions)

Class 1: Existing Facilities

- ☐ Addition, deletion, or modification of mechanical, electrical or hydraulic controls
- ☐ Monitoring, surveillance, security, remote sensing and supervisory control and data acquisition (SCADA)
- ☐ Maintenance, repair, replacement, or reconstruction to any water treatment process units, including: structures, filters, pumps, or chlorinators
- ☐ Additions to existing building structures and treatment plants provided the addition is within the existing confines of the property and will not result in an increase of more than 50% of the floor area of the structures before the addition or 2,500 square feet (whichever is less), or 10,000 square feet

Class 2: Replacement or Reconstruction

- ☐ Repair or replacement of water service connections, meters, valves for backflow prevention, air release pressure, regulating, shut-off, blow-off, or flushing
- ☐ Replacement or reconstruction of:
  - ☐ Existing water supply distribution lines **of substantially the same size**. Describe any size increase or location change:
  - ☐ Storage tanks and reservoirs **of substantially the same size**. Describe any size increase or location change:
  - ☐ Water wells **of substantially the same capacity**. The well to be replaced must be properly destroyed or otherwise secured to prevent tampering, entry of foreign material or vertical migration of any contaminants. Describe any capacity increase or location change:
  - ☐ Pump stations and related appurtenances **of substantially the same capacity.** Describe any capacity increase or location change:

Class 3: New Construction or Conversion of Small Structures

- ☐ Construction of water supply and distribution lines of less than sixteen inches in diameter and no greater than 1-mile in length, and related appurtenances
- ☐ Construction of any water storage tanks and reservoirs of no greater than 100,000- gallon capacity

☐ Construction, operation or permitting of new water wells for existing water systems which do not exceed 125 gallons per minute (provided that the well is not located in areas with any of the following: hard-rock formations, critically depleted groundwater basins, groundwater basins subject to seawater intrusion, groundwater under the direct influence of streams or lakes, polluted or contaminated aquifers)

☐ Construction of perimeter fencing around treatment plants and other buildings to deter unauthorized access if disturbed area does not exceed one acre

☐ Installation, operation or permitting of hypochlorination units to inactivate bacterial contamination

☐ Installation of water meters

STATUTORY EXEMPTIONS (CCR, Title 14, CEQA Guidelines)

☐ Section 15269 (a) statutory exemption for declared emergencies
☐ Section 15269 (b) statutory exemption for emergency repairs
☐ Section 15269 (c) statutory exemption for emergency prevention
☐ Section 15282 (k) statutory exemption for right-of-way pipelines less than 1-mile
☐ Section 15282 (m) statutory exemption for water fluoridation facilities
☐ Other (list specific code reference):

UNUSUAL CIRCUMSTANCES

Evaluate the following elements to determine if there are any unusual circumstances. For any "Yes" answers, discuss the possibility of significant environmental impacts resulting from the unusual circumstance. Consider all facilities; conveyance lines; storage, points of diversion; staging areas; and affected service area as applicable. Use attachments if necessary.

Yes	No	
☐	☐	In or adjacent to an area of undisturbed, unique, or high-quality habitat
☐	☐	On or adjacent to wildlife migration routes
☐	☐	In an area of unique recreational facilities or resources
☐	☐	On or adjacent to a unique stream or water body Involves removal of mature, scenic trees
☐	☐	Involves grading in a waterway or wetland
☐	☐	Involves a substantial alteration of ground contours
☐	☐	Involves new or increased use of a critically depleted groundwater basin or groundwater basin subject to salinity intrusion
☐	☐	In an area with important mineral resources
☐	☐	Involves production of significant amounts of solid wastes or litter
☐	☐	Involves substantial new or increased emission of dust, ash, smoke, fumes, odors, or other pollutants
☐	☐	Involves substantial change in noise or vibration levels in vicinity (beyond the property line) In an area of sensitive noise receptors
☐	☐	On slopes of 10 percent or more or on highly erodable soil In an officially mapped area of severe geologic hazard
☐	☐	Involves new or increased use **or** disposal of hazardous materials, flammables, or explosives Involves substantial change in demand for municipal services
☐	☐	Involves traffic impacts in an area with traffic problems
☐	☐	Involves substantial increase in fuel consumption (electricity, oil, natural gas, etc.)
☐	☐	Contribute to cumulative impacts associated with successive projects of the same type at or around the project site
☐	☐	On a Hazardous Waste and Substances Sites List (Cortese List: Section 65962.5(a))

Discussion:

IV. Evaluation Form For Federal Environmental Coordination

1. Clean Air Act:

http://www.arb.ca.gov/capcoa/dismap.htm

Air Basin Name: South Coast Air Basin

Local Air District for Project Area: South Coast AQMD

Is the project subject to a State Implementation Plan (SIP) conformity determination?

☐ No - The project is in an attainment or unclassified area for all federal criteria pollutants.

☒ Yes - The project is in a nonattainment area or attainment area subject to maintenance plans for a federal criteria pollutant. Include information to indicate the nonattainment designation (e.g. moderate, serious, severe, or extreme), if applicable. If estimated emissions (below) are above the federal *de minimis* levels, but the project is sized to meet only the needs of current population projections that are used in the approved SIP for air quality, then quantitatively indicate how the proposed capacity increase was calculated using population projections.

- **The applicant shall provide the estimated project construction and operational air emissions (in tons per year) in the chart below, and attach supporting calculations, regardless of attainment status.**

- **Also, attach any air quality studies that have been done for the project.** (see MND Section 3.3 and Appendices A and B.)

The Proposed Project is a remediation action to address releases of 1,4-dioxane in groundwater that are migrating to the North Hollywood West (NHW) Well Field. The Proposed Project would construct and operate water treatment equipment at the well field capable of removing the 1,4-dioxane and other VOC contaminants to below identified cleanup levels. It is anticipated that construction of the Proposed Project would take approximately one year to complete and would be begin in mid-2017. The emissions estimates depicted above are based on the following assumptions (duration of phases is approximate):

- Site Preparation: 20 days
- Piping, Conduit, and Concrete Installation: 80 days
- Equipment Installation: 20 days
- Structures and Commissioning: 100 days

For this analysis, it was assumed that heavy construction equipment would be used 5 days a week. The mix of construction equipment, including a loader, dozer, grader, crane, etc., were provided by LADWP. To estimate motor vehicle emissions generated by worker vehicles (i.e., light-duty trucks and automobiles), it was assumed that each worker would generate two one-way trips. In addition to construction equipment operation and worker trips, emissions from hauling (i.e., dump trucks) and vendor trucks (i.e., delivery trucks) were estimated. Haul trucks hauling waste off site were assumed to travel 20 miles (CalEEMod default) one-way to a nearby appropriately permitted landfill. Haul truck trips were assumed to primarily be required during the Site Preparation phase. Vendor trucks transporting concrete, steel, and other building materials were assumed during each phase. Detailed construction assumptions, including number and types of equipment, estimated daily worker and vendor trips and total estimated haul truck trips, are provided in Appendix B.

Total annual construction emissions (tons per year) associated with construction of the Proposed Project are presented in the table below.

Following the completion of construction activities, the Proposed Project would only generate criteria pollutant emissions associated with routine maintenance and inspection of the treatment equipment. The minimal operational activities would consist of refilling of the hydrogen peroxide tank (once per month), replacement of the UV lamps (once every 16 months), and granular activated carbon (GAC) replacement (once every five years); thus, there would be a minimal, intermittent increase in emissions from operational activities. Accordingly, annual operational emissions were not provided in the table below.

As shown in the table below, the Proposed Project would not exceed the federal *de minimis* emission thresholds.

Pollutant	Federal Status (Attainment, Nonattainment, Maintenance, or Unclassified)	Nonattainment Rates (i.e., moderate, serious, severe, or extreme)	Threshold of Significance for Project Air Basin (if applicable)	Construction Emissions (Tons/Year)	Operation Emissions (Tons/Year)
Ozone (O_3)[a]	Nonattainment	Extreme	N/A	N/A	N/A
Carbon Monoxide (CO)	Attainment (Maintenance)	--	100 tpy	0.25	N/A
Oxides of Nitrogen (NO_x)	N/A (Ozone Precursor)	--	10 tpy (based on ozone)	0.25	N/A
Reactive Organic Gases (ROG)[b]	N/A (Same as VOC)	--	N/A (Same as VOC)	N/A (Same as VOC)	N/A
Volatile Organic Compounds (VOC)[b]	N/A (Ozone Precursor)	--	10 tpy (based on ozone)	0.03	N/A
Lead (Pb)[c]	Nonattainment (Partial)	--	25 tpy	--	N/A
Particulate Matter less than 2.5 microns in diameter ($PM_{2.5}$)	Nonattainment	Serious	100 tpy	0.03	N/A
Particulate Matter less than 10 microns in diameter (PM10)	Attainment (Maintenance)	--	100 tpy	0.06	N/A
Sulfur Dioxide (SO2)	Unclassified/Attainment	--	N/A	0.00	N/A

[a] O_3 is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors, such as hydrocarbons and NO_x. These precursors are mainly NO_x and VOCs (also referred to as ROCs or ROGs). Accordingly, the South Coast Air Quality Management District has established thresholds for NO_x and VOC, but there are no thresholds O_3.

[b] ROG and VOC are considered equal for the purposes of air quality emissions analysis. The South Coast Air Quality Management District established thresholds for VOCs. Although there are no ambient air quality standards or attainment classifications for VOCs or NO_x, they are important as precursors to O_3.

[c] The phasing-out of leaded gasoline started in 1976. As gasoline no longer contains lead, the Proposed Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

2. Coastal Zone Management Act:

http://coastal.ca.gov/address.html and/or http://www.bcdc.ca.gov/

Is any portion of the project site located within the coastal zone?

☒ No - The project is not within the coastal zone. Please explain:

The Project is located approximately 14 miles from the Pacific Ocean and is not within the coastal zone.

☐ Yes - Describe the project location with respect to coastal areas and the status of the coastal zone permit, and provide a copy of the coastal zone permit or coastal exemption:

3. Endangered Species Act (ESA):

http://www.dfg.ca.gov/biogeodata/cnddb/ and/or http://www.fws.gov/cno/weare.html

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?

- **Required documents:** Attach project-level biological report/assessment by a qualified professional, surveys and evaluations analyzing the project's direct and indirect effects on special-status species, and an up-to-date species list from the United States Fish and Wildlife Service, the California Natural Diversity Database and the California Native Plant Society for the project area. An updated species list may be requested.

☒ No - Discuss why the project will not affect any federally listed special status species:

A biological assessment was conducted by a qualified professional for the Proposed Project. See MND Appendix C for the *Biological Technical Report for the North Hollywood West Well Field Water Treatment Project, Los Angeles County, California*, which includes the results of a literature review and field reconnaissance that were conducted to describe the biological resources in the Project study area. As stated in Appendix C, the study area established for the purposes of the biological assessment includes the Project site and an area extending 300 feet from the Project site. Three different land covers were mapped within the study area: disturbed habitat; ornamental vegetation; and urban/developed land. During the 2016 reconnaissance survey, no federally endangered or threatened species were identified. There is no United States Fish and Wildlife Service–designated critical habitat for federally endangered or threatened species within the Project site. No federally endangered or threatened species were determined to have a moderate or high potential to occur within the Project study area due to the lack of appropriate habitat and the extent of disturbed habitat present on site. See Appendix C for details. For these reasons, the direct effects of constructing the Project are not expected to affect federally threatened or endangered species or their critical habitat. Regarding indirect effects, the Proposed Project would not affect or increase LADWP's entitlement of groundwater. The Proposed Project would not involve housing or substantial increases in employment opportunities. For these reasons, the Project would not indirectly induce population growth or new development in LADWP's service area. As such, the Proposed Project is not expected to have indirect effects on federally endangered or threatened species or their critical habitat.

☐ Yes - Provide information on federally listed species that could potentially be affected by this Project and any proposed avoidance and compensation measures so that the State Water Board can initiate informal/formal consultation with the applicable federally designated agency. Explain any previous ESA consultations/coordination conducted with the National Marine Fisheries Service or US Fish and Wildlife Service for the project:

4 Environmental Justice:

http://www.epa.gov/compliance/environmentaljustice/basics/index.html

Does the project involve an activity that is likely to be of particular interest to or have particular impact upon minority, low-income, or indigenous populations, or tribes?

☒ No - Selecting "No" means that this action is not likely to be of any particular interest to or have an effect on these populations or tribes. Please explain:

☐ Yes - If you answer yes, please check at least one of the boxes and provide a brief explanation below (attach any consultation records for the affected areas with the United States Environmental Protection Agency (USEPA) Office of Enforcement and Compliance Assurance that support the determination):

- ☐ The project is likely to affect the health of these populations.
- ☐ The project is likely to affect the environmental conditions of these populations.
- ☐ The project is likely to present an opportunity to address an existing disproportionate impact of these populations.
- ☐ The project is likely to result in the collection of information or data that could be used to assess potential impacts on the health or environmental conditions of these populations.
- ☐ The project is likely to affect the availability of information to these populations.
- ☐ Other reasons (please describe):

Briefly explain the answer:

The Project involves the addition of water remediation equipment to a site that is owned by LADWP and that is currently used for the purposes of groundwater pumping, water treatment, and water distribution. The Project site is bordered by a park (Valley Plaza Park) and a freeway (State Route 170) and is located within the community of North Hollywood in the City of Los Angeles. The site is located within Census Tract number 1233.04 (U.S. Census Bureau 2010). The mean income per household for this census tract is estimated to be $43,850 (U.S. Census Bureau 2014a). The mean income per household in North Hollywood as a whole is estimated to be $35,909 (ZipCode.org 2016). Average household size in this census tract is 2.7 people. The U.S. Census Bureau identifies weighted average poverty thresholds by size of family in its Current Population Report. The threshold identified for families of two people is $15,379 and $18,850 for three people (U.S. Census Bureau 2014b). The income levels reported in North Hollywood and Census Tract number 1233.04 are above these thresholds. Census Tract number

1233.04 has a minority population of approximately 37% (U.S. Census Bureau 2014a), and North Hollywood has a minority population of 47% (Zipcod.org 2016). The Project site is not located on or near tribal lands as shown on U.S. Census Bureau maps (U.S. Census Bureau 2010). While there are low-income and minority residents within the Project area, the area is not a predominantly low-income or minority area. Additionally, the Proposed Project is not expected to have particular impact on these populations, as it would be contained within the boundaries of a property currently used and owned by LADWP and would not create adverse human health or environmental effects. Furthermore, LADWP has notified Project area residents through issuance of a Remedial Investigation/Feasibility Study, Proposed Plan, and Mitigated Negative Declaration for the Proposed Project, and has provided opportunity for community members to comment on the Project, in accordance with Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the California Environmental Quality Act (CEQA).

5. Farmland Protection Policy Act:

http://www.conservation.ca.gov/DLRP/fmmp/Pages/Index.aspx

Is any portion of the project located on important farmland?

☒ No - The project will not affect protected farmland. Please explain:

The Project is located on a site currently used for groundwater pumping, water treatment, and water distribution. The site is zoned as Open Space and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation 2015a). Additionally, the Project site is not within a Williamson Act contract (California Department of Conservation 2015b). The site is located in an urbanized area, and there is currently no agricultural production on the site or in the vicinity of the site.

☐ Yes - Include information on the acreage that would be converted from important farmland to other uses. Indicate if any portion of the project boundaries is under a Williamson Act Contract and specify the amount of acreage affected (include any assessments evaluating the conversion of prime/unique farmland and farmland of statewide/local importance to non-agricultural uses):

6. Flood Plain Management:

http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/

Is any portion of the project located within a 100-year floodplain as depicted on a floodplain map or otherwise designated by the Federal Emergency Management Agency?

- **Required document:** Attach a floodplain map. https://msc.fema.gov/portal

☒ No - Describe the project location with respect to streams and potential floodplains:

The Project site is located approximately 1 mile east of the Tujunga Wash and approximately 5 miles from Van Norman Reservoir, Hansen Dam, and Sepulveda Dam. Areas mapped within a 100-year floodplain are located approximately 1 mile west of the Project site. However, the Project site is not within the 100-year floodplain (see Attachment 1 – Floodplain Map).

☐ Yes - Describe the floodplain, and include a floodplains/wetlands assessment. Also describe any measures and/or project design modifications that would minimize or avoid flood damage by the project:

7. National Historic Preservation Act:

http://nahc.ca.gov and http://ohp.parks.ca.gov/pages/1068/files/IC%20Roster.pdf

Identify the area of potential effects (APE) with both cartographic and textual descriptions, including construction, staging areas, and depth of any excavation. (Note: the APE is three dimensional and includes all

areas that may be affected by the project, including the surface area and extending below ground to the depth of any project excavations).

- **Required documents:** Attach a copy of a Cultural Resources Report prepared by a qualified professional that includes a current records search from the appropriate California Historical Resources Information System (CHRIS), extending to a half-mile beyond the Project APE, with maps showing all sites and surveys drawn in relation to the Project area, records of Native American consultation, and a consultation letter for the State Water Board to use for consultation with the State Historic Preservation Officer. An updated records search from the California Historical Resources Information System may be requested.

Summarize the information provided below:

The APE consists of the approximately 4-acre Project site, which is composed of the site on which the proposed remediation equipment would be installed and two access drives. Materials and supplies laydown, equipment storage, and worker vehicle parking would be confined to the Project site. The Area of Direct Impact (ADI) consists of the approximately 2-acre site on which the equipment would be installed (called the "facilities site"), which consists of the Project site, minus the two access drive areas. Grading, excavation, and construction of the water treatment equipment would occur within the facilities site. The vertical APE for the Project is considered the sediments disturbed during Project construction that have the potential to contain intact cultural deposits. The amount of disturbed sediments varies according to the topography and construction needs, but overall ground disturbance would not exceed depths of 4 feet.

See Appendix D for the *Cultural Resource Technical Report for the North Hollywood West Well Field Water Treatment Project,* which includes the results of the current CHRIS records search and records of Native American outreach. Maps depicting the locations of previously recorded resources and previously conducted studies within the Project APE and surrounding 1 mile are included in the confidential Appendix A of the Cultural Resources Report.

8. Magnuson-Stevens Fishery Conservation and Management Act:
http://www.nmfs.noaa.gov/sfa/magact

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

☒ No - Discuss why the project will not affect essential fish habitat:

There is no essential fish habitat located within the Project site; therefore, the Project would not result in direct effects to essential fish habitat. Additionally, there is no essential fish habitat in the vicinity; therefore, the Project would not result in indirect effects that adversely affect essential fish habitat.

☐ Yes - Provide information on essential fish habitat that could potentially be affected by this project and any proposed avoidance and compensation measures (provide a copy of the Essential Fish Habitat Assessment). Explain any previous consultations/coordination conducted with the National Marine Fisheries Service for the project:

9. Migratory Bird Treaty Act:
http://www.fws.gov/migratorybirds/RegulationsandPolicies.html

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?

☐ No - Provide an explanation below.

☒ Yes - Discuss the impacts (such as noise and vibration impacts, modification of habitat) to migratory birds that may be directly or indirectly affected by the project and mitigation measures to reduce or eliminate these impacts. Include a list of all migratory birds that could occur where the project is located:

The Project site supports a number of planted trees and landscaping that could provide nesting opportunities for a variety of migratory birds during the nesting season (generally mid-February through August). Please refer to MND Appendix C for a list of migratory birds that could potentially be affected by activities within the Project site. If vegetation removal is proposed to occur during the nesting bird season, significant temporary, direct and indirect impacts to nesting birds could occur. Likewise, construction-related noise during the nesting bird season could

disrupt breeding activity in immediately adjacent vegetation. Temporary direct and indirect impacts to nesting birds protected under the Migratory Bird Treaty Act would be a significant impact. As a result, the following mitigation measure is recommended to reduce potential impacts to nesting birds during construction of the Proposed Project:

MM-BIO-1 Birds and Raptors: If Project construction occurs during the migratory bird nesting season (typically February 15 through August 31), a focused avian nesting survey of the Project site and contiguous habitat within 300 feet of the site for protected native birds (within 500 feet for raptors) shall be performed by a qualified wildlife biologist 72 hours prior to construction in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703–712) and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the biology of the species (typically 300 feet for passerines and 500 feet for raptor and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing.

10. Protection of Wetlands:

http://www.fws.gov/wetlands/Data/Mapper.html

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the United States Army Corps of Engineers?

☒ No - Provide the basis for such a determination:

During the biological field reconnaissance survey, hydrology and vegetation were examined throughout the Project study area to identify potential wetland sites and/or non-wetland waters (e.g., drainages, channels). No jurisdictional wetlands or non-wetland waters were found to occur within the study area (see Appendix C). As such, no portion of the Project boundaries contain areas that should be evaluated for wetland delineation or that require a permit from the United States Army Corps of Engineers.

☐ Yes - Provide an assessment describing the affects to wetlands, potential wetland areas, and other surface waters; and the avoidance, minimization, and mitigation measures to reduce such impacts (provide the status of the 401 Certification and/or permit received under Section 404 provisions, information on permit requirements, and copies):

11. Safe Drinking Water Act, Sole Source Aquifer Protection:
http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/index.cfm

Is the project located in an area designated by the USEPA, Region 9, as a Sole Source Aquifer?

☒ No - The project is not within the boundaries of a sole source aquifer.

The Project is not within a Sole Source Aquifer (EPA 2016a, 2016b).

☐ Yes - Identify the sole source aquifer that will be affected (provide a record of consultation with the USEPA, Region 9 Ground Water Office):

12. Wild and Scenic Rivers Act:
http://www.rivers.gov/california.php and/or http://ceres.ca.gov/mapviewer

Identify watershed where the project is located:

Is any portion of the project located within a wild and scenic river?

- **Required documents:** Attach a map if any portion of the project is located within a wild and scenic

river watershed.

☒ No - The project will not affect a wild and scenic river. Please explain:

The Project site is located in a fully urbanized and developed area and is not within a wild and scenic river watershed (National Wild and Scenic River System 2016).

☐ Yes - Identify the wild and scenic river watershed and project location relative to the affected wild and scenic river (provide a record of consultation with the United States Department of Agriculture [USDA] Forest Service, Region 9 Office):

13.**National Forest Lands:**
http://www.fs.usda.gov/r5

Is any portion of the proposed project site located on National Forest Lands?

- **Required documents:**
  - Attach a color map and identify the APE

☒ No - The project is not on US Forest Service Land.

The Project site is located within the City of Los Angeles and is not within National Forest lands. The nearest National Forest is the Angeles National Forest, located approximately 6 miles north of the Project site (see Attachment 2 – National Forest Service Boundary).

☐ Yes - Attach a copy of the Special Use Permit and Identify the National Forest in which the Project is located:

14. Clean Water Act (Section 404) and Rivers and Harbors Act (Section 10):
http://www.fws.gov/habitatconservation/cwa.htm

Will this project include placement of dredged or fill material into waters of the United States? Will the project include construction of structures in, under, or over navigable waters of the United States?

☒ No - The project is not located in or near navigable waters of the United States. There will be no modification of existing structures in or near designated navigable waters, nor will the project result in the placement of dredge or fill material into the waters of the United States.

During the biological field reconnaissance survey, hydrology and vegetation were examined throughout the Project study area to identify potential wetland sites and/or non-wetland waters (e.g., drainages, channels). No jurisdictional wetlands or non-wetland waters were found to occur within the study area (see MND Appendix C). As such, the Proposed Project would not include placement of dredged or fill material into waters of the United States, nor would the Project include construction of structures in, under, or over navigable waters of the United States.

☐ Yes – The project will require a Section 404 permit or Section 10 Certification.

Resources

California Department of Conservation. 2015a. Los Angeles County Important Farmland 2012. [map]. 1:120,000. Sacramento, CA: Farmland Mapping and Monitoring Program. January 2015. Accessed August 26, 2015. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/.

California Department of Conservation. 2015b. State of California Williamson Act Contract Land. [map]. 1:3,520,000. Sacramento, CA: California Department of Conservation, Division of Land Resource Protection. Published 2015. Data submissions current to 2014. Accessed September 30, 2015. http://www.consrv.ca.gov/dlrp/lca/Pages/Index.aspx.

EPA (U.S. Environmental Protection Agency). 2016a. "Sole Source Aquifer." Pacific Southwest, Region 9: Ground Water. Last updated February 23, 2016. Accessed May 3, 2016. http://epa.gov/region09/water/groundwater/ssa.html.

EPA. 2016b. "Main Land Sole Source Aquifers" [digital Google Earth data and map]. Accessed May 3, 2016. http://epa.gov/region09/water/groundwater/ssa.html.

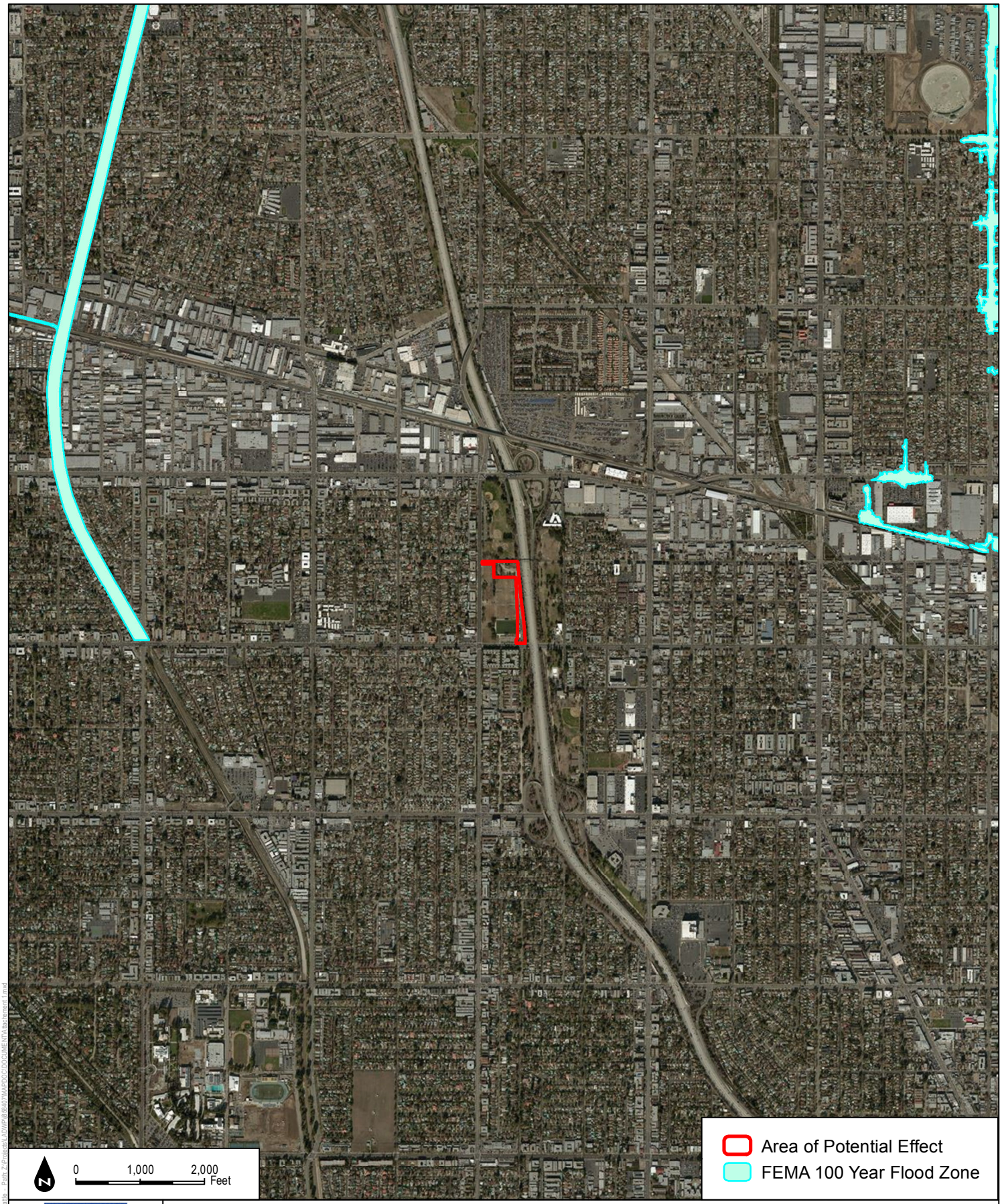
National Wild and Scenic Rivers System. 2016. *National Wild and Scenic Rivers System*. [map]. 1:5,000,000. Produced by the United States Department of Agriculture Forest Service, United States Department of the Interior Bureau of Land Management, United States Fish and Wildlife Service, and National Park Service, in cooperation with the National Atlas of the United States. September 2009. Accessed May 3, 2016. https://www.rivers.gov/mapping-gis.php.

U.S. Census Bureau. 2010. "Census Tract Reference Map: Los Angeles County, CA" [map]. 1:40,000. January 1, 2010. Accessed May 3, 2016. http://www2.census.gov/geo/maps/dc10map/tract/st06_ca/c06037_los_angeles/.

U.S. Census Bureau. 2014a. American FactFinder. Census Tract 1233.04. "Race," "Mean Income in the Past 12 Months (In 2014 Inflation-Adjusted Dollars," and "Households and Families." 2014. Accessed May 3, 2016. http://factfinder.census.gov/faces/nav/jsf/pages/guided_search.xhtml.

U.S. Census Bureau. 2014b. Income and Poverty in the United States: 2014 – Current Population Reports. Prepared by Carmen DeNavas-Walt and Bernadette D. Proctor. Issued September 2015. Accessed May 3, 2016. https://www.census.gov/content/dam/Census/library/publications/2015/demo/p60-252.pdf.

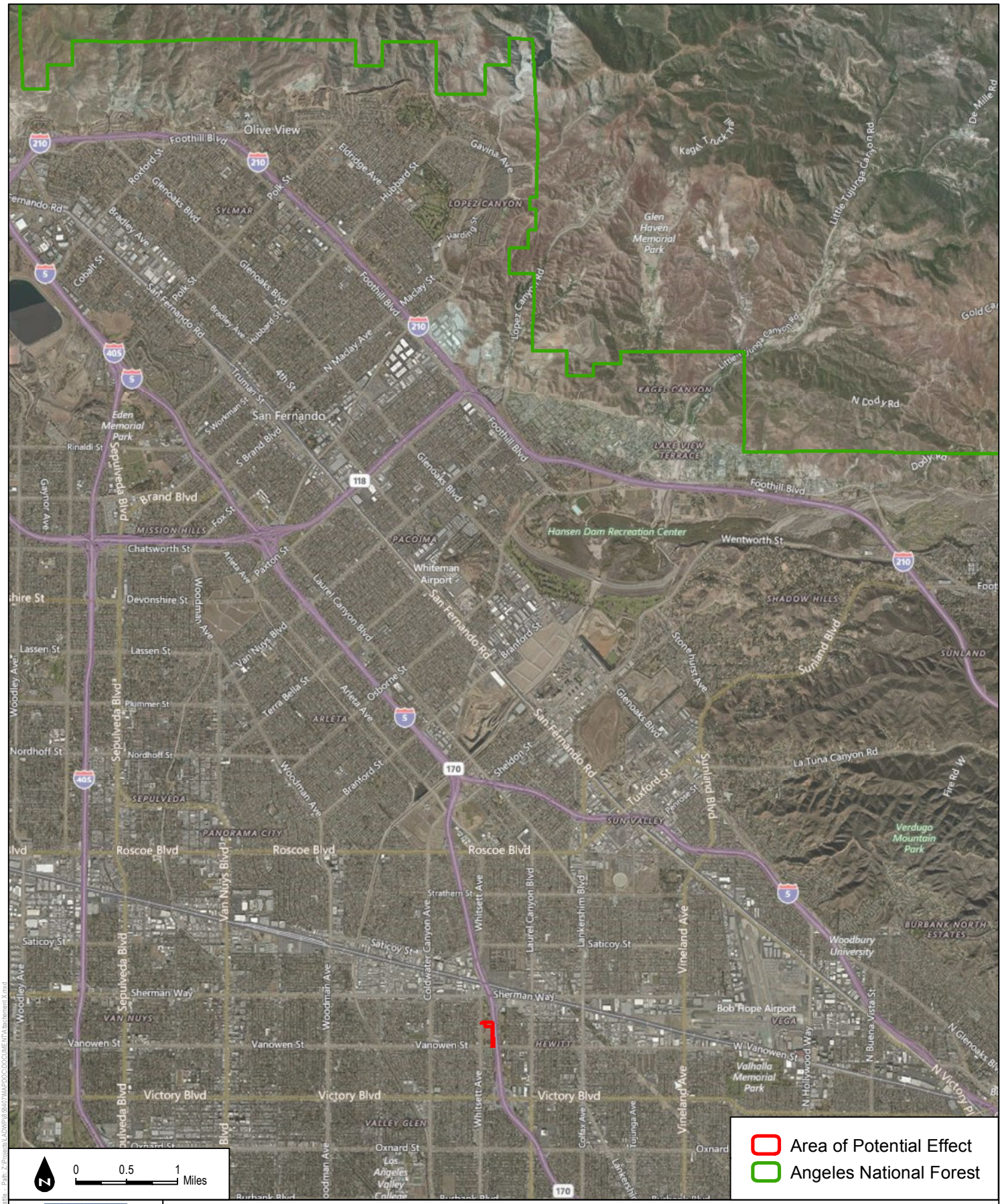
ZipCode.org. 2016. "City of North Hollywood, CA Demographic Information." From 2000 Census data. Accessed May 3, 2016. http://zipcode.org/city/CA/NORTHHOLLYWOOD.



SOURCE: Bing Maps, 2016; FEMA, 2016

Attachment 1
Floodplain Map

North Hollywood West Well Field Water Treatment Project



SOURCE: Bing Maps, 2016

Attachment 2
National Forest Service Boundary

North Hollywood West Well Field Water Treatment Project

APPENDIX A

Construction Details

North Hollywood West Well Field Water Treatment Project

GENERAL CONSTRUCTION SCHEDULE **20 work days per month average**

				Months												
	Material	Quantity	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13
Mobilization	N/A	1	LS	1.0												
Clearing and grubbing																
Clearing and grubbing	earth	0.31	Acre													
Soil Stripping & Stockpiling	earth	1628	C.Y													
Spreading	earth	2035	L.C.Y													
Compaction, riding sheepsfoot or wobbly wheel roller	earth	2035	E.C.Y													
Structural Excavation																
Excavate	earth	970	B.C.Y													
Load & Haul	earth	1213	L.C.Y													
Fine grade for SOG, machine	earth	1284	S.Y													
Compaction, Rammer Tamper	earth	143	E.C.Y													
Excavate for Piping																
Excavate	earth	100	C.Y													
Spreading	earth	125	C.Y													
Compaction, riding sheepsfoot or wobbly wheel roller	earth	125	E.C.Y													
Excavate for Conduit																
Excavate	earth	100	C.Y													
Spreading	earth	125	C.Y													
Compaction, riding sheepsfoot or wobbly wheel roller	earth	125	E.C.Y													
Install Piping																
24" Diameter	steel	2000	LF													
Install Conduit																
6" Diameter	conduit	1000	LF													
Concrete Reinforcement																
Reinforcing Placement	rebar	116803	Lb.													
Concrete Placement																
Concrete Placing, Pumped	concrete	831	C.Y													
Equipment Installation																
Set Equipment	misc.	25	EA													
Structure & Misc.																
Main Roof Framing	steel	500	LF													
Minor Framing	steel	500	LF													
Galvanized Building	steel	2586	SF													
Construction Closeout																
Punchlist, Commissioning, etc.	misc.															

ON-SITE PERSONNEL (person-days)

	Months												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Clearing and grubbing													
Clearing and grubbing	7												
Soil Stripping/Stockpiling, Spreading, & Compaction	11												
Structural Excavation													
Excavate, Load, Haul, Fine Grade, & Compact	17												
Excavate for Piping													
Excavate	8												
Spread & Compact				4									
Excavate for Conduit													
Excavate	2												
Spread & Compact				4									
Install Piping													
24" Diameter		110	110										
Install Conduit													
6" Diameter		168	168	168									
Concrete Reinforcement													
Reinforcing Placement			56	56									
Concrete Placement													
Concrete Placing, Pumped					48								
Equipment Installation													
Set Equipment							50						
Structure & Misc.													
Main Roof Framing								8	8				
Minor Framing								6	6				
Galvanized Building										6	6		
Total person-days per month	45	278	334	232	48	-	50	14	14	6	6		
Average daily field personnel	2.25	13.90	16.70	11.60	2.40	0.00	2.50	0.70	0.70	0.30	0.30		
Average daily office and supervisory personnel	3	3	3	3	3	3	3	3	3	3	3		
Average daily personnel	6	17	20	15	6	3	6	4	4	4	4		

OFF-SITE TRUCK TRIPS (inbound and outbound)

				Months												
	Truck Capacity	Quantity	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13
Construction support trucks	N/A	N/A	CY	2												
Equipment delivery trucks				11	10	10	7			25	5	5	5	5		
Hauling trucks	12	1213	LCY	101												
Water trucks	3,000	N/A	Gal	1												
Rebar Delivery Trucks	20,000	116803	Lb			3	3									
Concrete Truck with Pump	10 cy	831	cy		178			90								
Total one-way truck trips per month				115	188	13	10	90	-	25	5	5	5	5	-	-
Average daily one-way truck trips				6	10	1	1	5	-	2	1	1	1	1	-	-

EQUIPMENT OPERATIONS (hours)

	Maximum Number	Max. Hrs/day ea.	Maximum Hrs/Mth	Months												
				1	2	3	4	5	6	7	8	9	10	11	12	13
Brush Chipper, 130 H.P.	1	8	8	8												
Crawler Loader, 3 C.Y.	1	8	8	8												
Chain Saws (gas)	2	8	16	16												
Stump Chipper	1	8	8	8												
Bull Dozer, 200 H.P.	1	8	56	56			16									
Front end loader, wheel mounted, 3 C.Y. bucket	1	8	8	8												
Dump Truck, 12 C.Y., 400 H.P.	3	8	48	48												
Sheepsft Roll. 240 H.P.	1	8	16	16			16									
Water Truck, 3000 gallon	2	8	8	8												
Motor Grader, 30,000 Lbs.	1	8	8	8												
Backhoe Loader	1	8	40	40												
Concrete Pump	1	8	48					48								
Gas Engine Vibrator	2	8	96					96								
Rammer Tamper	1	8	16	16												
S.P. Crane, 4x4, 12 Ton	1	8	88		88	88										
Lattice Boom Crane	1	8	80							80						
Total hours per month				240	88	88	32	144	-	80	-	-	-	-	-	-
Average daily equipment units				2	1	1	1	1	-	1	-	-	-	-	-	-

APPENDIX B

Air Quality and Greenhouse Gas Emissions
Supplemental Report

APPENDIX B1

Air Quality and Greenhouse Gas Emissions
Supplemental Environmental Setting

AIR QUALITY AND GREENHOUSE GAS EMISSIONS SUPPLEMENTAL ENVIRONMENTAL SETTING: NORTH HOLLYWOOD WEST WELL FIELD WATER TREATMENT PROJECT LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012
Contact: Nadia Parker

Prepared by:

DUDEK
38 Marengo Avenue
Pasadena, California 91101
Contact: Jennifer Reed

NOVEMBER 2016

North Hollywood West Well Field Water Treatment Project
Air Quality and Greenhouse Gas Emissions
Supplemental Environmental Setting

TABLE OF CONTENTS

Section **Page No.**

TABLE

North Hollywood West Well Field Water Treatment Project
Air Quality and Greenhouse Gas Emissions
Supplemental Environmental Setting

1 AIR QUALITY SETTING

The Proposed Project is located within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD). The Proposed Project is located in the community of North Hollywood in the City of Los Angeles. Summers in the area are generally warm to hot and dry, while winters tend to be mild with relatively low amounts of rain. The Santa Ana winds, which are strong, dry offshore winds, periodically affect the area during late fall and winter.

1.1 Air Quality Management Plan

The SCAQMD administers the Air Quality Management Plan (AQMP) for the SCAB, which is a comprehensive document outlining an air pollution control program for attaining all California Ambient Air Quality Standards (CAAQS) as well as National Ambient Air Quality Standards (NAAQS). The latest version of the SCAQMD's AQMP is the Final 2012 AQMP (SCAQMD 2013), which was adopted by SCAQMD in December 2012 and finalized in February 2013. The 2012 Final AQMP is designed to meet applicable federal and state requirements for ozone (O_3) and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns (fine particulate matter; $PM_{2.5}$). The 2012 AQMP was approved by the California Air Resources Board (CARB) on January 25, 2013, and the portions of the AQMP that address the O_3 NAAQS were approved by the United States Environmental Protection Agency (EPA) on September 3, 2014. The Final 2012 AQMP demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the SCAB through adoption of all feasible measures. The 2012 AQMP also updates the EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act Section 182(e)(5) long-term measures for oxides of nitrogen (NO_x) and volatile organic compound (VOC) reductions. Notably, the SCAQMD is currently in the process of developing the 2016 AQMP, which will incorporate the latest planning and growth assumptions, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated emissions inventories.

Emissions that would result from mobile, stationary, and area sources during construction and operation of the Project are subject to the rules and regulations of the SCAQMD. For example, Rule 403 requires the implementation of measures to control the emission of visible fugitive/ nuisance dust, such as wetting soils that will be disturbed.

Based on general plans for cities and counties in the SCAB, demographic growth forecasts for various socioeconomic categories (i.e., population, housing, employment by industry) developed

by the Southern California Association of Governments (SCAG) for its 2012 Regional Transportation Plan were used in the 2012 AQMP. In addition, emission reductions resulting from SCAQMD regulations adopted by June 2012 and CARB regulations adopted by August 2011 are included in the baseline. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development.

1.2 SCAB Attainment Designation

An area is designated as "in attainment" when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the EPA and CARB, respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in this air quality assessment include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter; PM_{10}) and $PM_{2.5}$. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O_3.

The entire SCAB is designated as a nonattainment area for both federal and state O_3 standards. The EPA has classified the SCAB as an extreme nonattainment area for the 1997 and 2008 O_3 NAAQS, with designations for the 2015 NAAQS still pending. The SCAB is designated as an attainment area for state and federal CO standards. The SCAB is designated as an attainment area under the state and federal standards for NO_2. The entire SCAB is in attainment with both federal and state SO_2 standards. The Los Angeles County portion of the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, and the SCAB is designated in attainment for the state lead standard. The SCAB is designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal standards. In regard to $PM_{2.5}$ attainment status, the SCAB is designated as a nonattainment area by CARB and the EPA (SCAQMD 2016).

1.3 Thresholds of Significance

The City of Los Angeles has not adopted Citywide significance thresholds for air quality impacts, but rather references the SCAQMD thresholds and guidance based on the SCAQMD's regulatory role in the SCAB (City of Los Angeles 2006). Construction of the Proposed Project would result in emissions of criteria air pollutants for which CARB and the EPA have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). Projects that emit these pollutants have the potential to cause or contribute to violations of these standards. The SCAQMD CEQA Air Quality Handbook, as revised in March 2015, sets forth quantitative emission significance thresholds for criteria air

pollutants, which, if exceeded, would indicate the potential for a project to contribute to violations of the NAAQS or CAAQS. Table 1 lists the SCAQMD Air Quality Significance Thresholds set forth in the SCAQMD CEQA Air Quality Handbook (SCAQMD 2015).

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3, which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 1. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (VOCs and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 1
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	*Construction*	*Operation*
VOC	75 lb/day	55 lb/day
NO_x	100 lb/day	55 lb/day
CO	550 lb/day	550 lb/day
SO_x	150 lb/day	150 lb/day
PM_{10}	150 lb/day	150 lb/day
$PM_{2.5}$	55 lb/day	55 lb/day
Lead[a]	3 lb/day	3 lb/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs[b] (including carcinogens and noncarcinogens)	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

Source: SCAQMD 2015.
Notes: SCAQMD = South Coast Air Quality Management District; lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
[a] The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the Proposed Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
[b] TACs include carcinogens and non-carcinogens.

2 GREENHOUSE GAS EMISSIONS SETTING

2.1 The Greenhouse Effect and Greenhouse Gases

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer). Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process: (1) short-wave radiation emitted by the Sun is absorbed by the Earth; (2) the Earth emits a portion of this energy in the form of long-wave radiation; and (3) GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and back toward the Earth. This trapping of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor (H_2O). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil-fuel combustion, whereas CH_4 results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3), which are associated with certain industrial products and processes (CAT 2006).

The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Without it, the temperature of the Earth would be about 0° Fahrenheit (F) (−18° Celsius (C)) instead of its current 57°F (14°C). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The GWP varies between GHGs; for example, the GWP of CH_4 is 21, and the GWP of N_2O is 310. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2E).[1]

[1] The CO_2E for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO_2E = (metric tons of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH_4 is 21, which means that emissions of 1 metric ton of CH_4 are equivalent to emissions of 21 metric tons of CO_2, and the GWP for N_2O is 310, based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report.

2.2 Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. It is generally believed that an individual project is of insufficient magnitude by itself to influence climate change. Thus, GHG impacts are recognized as exclusively as cumulative impacts. This approach is consistent with that recommended by the California Natural Resources Agency (CNRA), which noted in its Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009).

There are currently no SCAQMD established thresholds for assessing whether the GHG emissions of a project in the SCAB, such as the Proposed Project, would be considered a cumulatively considerable contribution to global climate change. Neither the State of California, nor the SCAQMD, nor the City of Los Angeles has adopted emission-based thresholds for GHG emissions applicable to the Proposed Project.

The Governor's Office of Planning and Research issued a technical advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review*, which states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008). Such an approach is also consistent with CEQA's provisions regarding the analysis of GHG impacts (see CEQA Guidelines, Section 15064.4). Additionally, the state adopted Senate Bill 375 (SB 375) and Assembly Bill 32 (AB 32), which both provide guidelines and requirements relative to regional GHG emissions. These two statutes are summarized below.

Although the IPCC has released subsequent Assessment Reports with updated GWPs, the use of the different GWPs will not substantially change the overall Project GHG emissions, which are primarily CO_2. As such, it is appropriate to use the hardwired GWP values in CalEEMod from the IPCC Second Assessment Report.

2.3 Key Regulatory Measures

Senate Bill 375

In August 2008, the state legislature passed SB 375, which addresses GHG emissions associated with transportation through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards, the composition of fuels, and other CARB-approved measures to reduce GHG emissions. Among other things, regional metropolitan planning organizations are responsible for preparing a Sustainable Communities Strategy (SCS) within each of their respective Regional Transportation Plans (RTPs). The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. On September 23, 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the SCAG are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. SCAG prepared its RTP/SCS, which was adopted by the SCAG Regional Council on April 4, 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035 (SCAG 2012). On June 4, 2012, the CARB executive officer issued an executive order accepting SCAG's quantification of GHG reductions and the determination that implementation of the SCS would achieve the GHG emission reduction targets established by CARB.

Assembly Bill 32

AB 32 requires the state to reduce its GHG emissions to 1990 levels by 2020. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve these goals. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism that is adopted. The first action under AB 32 resulted in the adoption of a report listing early action GHG emission reduction measures in 2007. Examples of measures that were adopted include a low-carbon fuel standard and increased methane capture from landfills. Also in 2007, CARB

adopted regulations requiring mandatory reporting of GHGs for large facilities that contribute substantially to GHG emissions, such as electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and other industrial sources that emit CO_2 in excess of specified thresholds.

On December 11, 2008, CARB approved the Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan; CARB 2008) to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

The First Update to the Climate Change Scoping Plan (Scoping Plan Update) was approved by CARB in May 2014. The Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The update defines CARB's climate change priorities for the next 5 years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts were pursued to achieve the near-term 2020 goal and have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32. The Scoping Plan Update identifies key focus areas or sectors including energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program (CARB 2014). The update also recommends that a statewide mid-term target and mid-term and long-term sector targets be established toward meeting the 2050 goal established by Executive Order S-3-05 to reduce California's GHG emissions to 80% below 1990 levels, although no specific recommendations are made.

2.4 Status of Proposed SCAQMD Thresholds

In October 2008, SCAQMD presented to the Governing Board the Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008). The guidance document was not adopted or approved by the Governing Board. This document explored various approaches for establishing a significance threshold for GHG emissions. Among the concepts discussed, the document considered a "de minimis," or screening, threshold to "identify

small projects that would not likely contribute to significant cumulative GHG impacts" (SCAQMD 2008). As further explained in this document, "Projects with GHG emissions less than the screening level are considered to be small projects, that is, they would not likely be considered cumulatively considerable" (SCAQMD 2008). The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. The SCAQMD proposed three tiers of compliance that may lead to a determination that impacts are less than significant, including the following:

1. Projects with GHGs within budgets set out in approved regional plans to be developed under the SB 375 process
2. Projects with GHG emissions that are below designated quantitative thresholds:
    a. Industrial projects with an incremental GHG emissions increase that falls below (or is mitigated to be less than) 10,000 metric tons (MT) CO_2E per year
    b. Commercial and residential projects with an incremental GHG emissions increase that falls below (or is mitigated to be less than) 3,000 MT CO_2E per year, provided that such projects also meet energy efficiency and water conservation performance targets that have yet to be developed
3. Projects that purchase GHG offsets that, either alone or in combination with one of the three tiers mentioned above, achieve the target significance screening level.

From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The most recent working group meeting on September 28, 2010 (SCAQMD 2010), proposed two options lead agencies can select from to screen thresholds of significance for GHG emissions in residential and commercial projects, and proposes to expand the 10,000 MT CO_2E per year industrial threshold to other lead agency industrial projects. This proposed threshold has not been adopted by the SCAQMD governing Board.

The Proposed Project's GHG emissions will be compared to the SCAQMD recommendations of a threshold of 10,000 MT CO_2E per year for industrial projects. As discussed above, this threshold is intended to be applied to the Proposed Project's emissions to determine whether they would result in a cumulatively considerable contribution to the cumulative impacts of global climate change.

3 REFERENCES

CARB (California Air Resources Board). 2008. *Climate Change Scoping Plan: A Framework for Change*. October, approved December 12, 2008. http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf.

CARB. 2014. *First Update to the AB32 Scoping Plan*. May 2014. http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm.

CAT (California Climate Action Team). 2006. *Climate Action Team Report to the Governor Schwarzenegger and the Legislature*. Sacramento, California. March 2006. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

City of Los Angeles. 2006. *LA CEQA Thresholds Guide*. City of Los Angeles. http://environmentla.com/programs/table_of_contents.htm.

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*. December 2009.

OPR (Governor's Office of Planning and Research). 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.*

SCAG (Southern California Association of Governments). 2012. *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Adopted April 2012.

SCAQMD (South Coast Air Quality Management District). 2008. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008.

SCAQMD. 2010. *Greenhouse Gases CEQA Significance Thresholds Working Group Meeting No. 15*. September 28, 2010. Accessed August 20, 2013. http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html.

SCAQMD. 2013. *Final 2012 Air Quality Management Plan*. Revised February 2013.

SCAQMD. 2015. *SCAQMD Air Quality Significance Thresholds*. March 2015. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.

SCAQMD. 2016. *National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin*. February 2016. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2.

APPENDIX B2

Air Quality and Greenhouse Gas Emissions Assumptions and CalEEMod Outputs

Construction Assumptions and CalEEMod Outputs

LADWP North Hollywood West Well Field Water Treatment Project - Construction Assumptions

Phase: Site Preparation

Schedule:	Jan-17		20	days				
Acres Disturbed	0.31							
Average Daily Workers:	6	=			12	one-way trips per day		
Daily One-Way Truck Trips:	6							
Equipment Type	Max Number		Hours/Day Ea.	Hrs/Month Total	Ave Hrs/Day	Potential Worse-Case Day (HP given or based on CalEEMod)		
Brush Chipper (130 HP)	1		8	8	0.4			
Crawler Loader (208 HP)	1		8	8	0.4			
Chain Saws (gas) (81 HP)	2		8	16	0.4			
Stump Chipper (85 HP)	1		8	8	0.4			
Bull Dozer (200 HP)	1		8	56	2.8	x		
Front End Loader (200 HP)	1		8	8	0.4	x		
Sheepfoot Roller (240 HP)	1		8	16	0.8	x		
Motor Grader (175 HP)	1		8	8	0.4	x		
Backhoe (98 HP)	1		8	40	2	x		
Rammer Tamper (8 HP)	1		8	16	0.8			

Phase: Piping, Conduit, and Concrete Installation

Schedule:	Feb-17		80	days	(Feb through May)			
Average Daily Workers:	15	=			30	one-way trips per day		
Daily One-Way Truck Trips:	5							
Equipment Type	Max Number		Hours/Day Ea.	Hrs/Month Total	Ave Hrs/Day	Potential Worse-Case Day (HP given or based on CalEEMod)		
Crane, 12 ton (226 HP)	1		8	88	1.1	x		
Bull Dozer (200 HP)	1		8	16	0.2		x	
Sheepfoot Roller (240 HP)	1		8	16	0.2		x	
Concrete Pump (84 HP)	1		8	48	0.6			x
Vibrator (gas) (81 HP)	2		8	96	0.6			x

Phase: Equipment Installation

Schedule:	Jul-17		20	days				
Average Daily Workers:	6	=			12	one-way trips per day		
Daily One-Way Truck Trips:	2							
Equipment Type	Max Number		Hours/Day Ea.	Hrs/Month Total	Ave Hrs/Day	Potential Worse-Case Day (HP given or based on CalEEMod)		
Lattice Boom Crane (226 HP)	1		8	80	4	x		

Phase: Structures and Commissioning

Schedule:	Aug-17		100	days	(end December 2017)			
Average Daily Workers:	4	=			8	one-way trips per day		
Daily One-Way Truck Trips:	2							
Equipment Type	Max Number		Hours/Day Ea.	Hrs/Month Total	Ave Hrs/Day			
None								

LST Thresholds Interpolation (pounds per day) - 1 Acre

Distance (m)	50	84	100	*
NOx	104	115.56	121	
CO	833	1,105	1,233	
PM10	12	22	27	
PM2.5	4	7	8	

Source Receptor Area: 2

* LST Thresholds for 50 and 100 meters provided by SCAQMD
Final Localized Significance Threshold Methodology . Revised July 2008.

LADWP North Hollywood West Well Field Water Treatment

Project Construction - Worst-Case Day

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Assumes 0.31 acres disturbed, 2,500 sf storage facility and 4,000 sf UV treatment facility

Construction Phase - Modified with project specifics. Approximately 1-year of construction

Off-road Equipment - Site Prep: assumes Dozer (x1), Front Loader (x1), Roller (x1), Grader (x1), and Tractor/Loader/Backhoe (x1) for worse-case day

Off-road Equipment - Pipe/conduit/concrete: assumes Dozer (x1) and Roller (x1) for worse-case day

Off-road Equipment - Equipment Install: assumes Lattice Crane (x1) for worse-case day

Off-road Equipment - Structures/Commissioning: No equipment needed

Trips and VMT - Modified per applicant input

Grading - 1,213 CY of soil exported

Construction Off-road Equipment Mitigation - No Mitigation Included

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	PhaseEndDate	6/16/2017	7/28/2017
tblConstructionPhase	PhaseStartDate	1/28/2017	1/30/2017
tblConstructionPhase	PhaseStartDate	5/20/2017	7/1/2017
tblConstructionPhase	PhaseStartDate	7/29/2017	7/31/2017
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblGrading	AcresOfGrading	10.00	1.00
tblGrading	MaterialExported	0.00	1,213.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2018
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	152.00	101.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	3.3253	37.3180	16.9805	0.0359	6.3103	1.7348	8.0451	3.3784	1.5960	4.9744	0.0000	3,622.4648	3,622.4648	0.9584	0.0000	3,642.5902
Total	**3.3253**	**37.3180**	**16.9805**	**0.0359**	**6.3103**	**1.7348**	**8.0451**	**3.3784**	**1.5960**	**4.9744**	**0.0000**	**3,622.4648**	**3,622.4648**	**0.9584**	**0.0000**	**3,642.5902**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	3.3253	37.3180	16.9805	0.0359	6.3103	1.7348	8.0451	3.3784	1.5960	4.9744	0.0000	3,622.4648	3,622.4648	0.9584	0.0000	3,642.5902
Total	**3.3253**	**37.3180**	**16.9805**	**0.0359**	**6.3103**	**1.7348**	**8.0451**	**3.3784**	**1.5960**	**4.9744**	**0.0000**	**3,622.4648**	**3,622.4648**	**0.9584**	**0.0000**	**3,642.5902**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2017	1/27/2017	5	20	
2	Piping, Conduit, Concrete Install	Building Construction	1/30/2017	5/19/2017	5	80	
3	Equipment Install	Building Construction	7/1/2017	7/28/2017	5	20	
4	Structures and Commissioning	Building Construction	7/31/2017	12/15/2017	5	100	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Equipment Install	Cranes	1	8.00	226	0.29
Structures and Commissioning	Cranes	0	4.00	226	0.29
Equipment Install	Forklifts	0	6.00	89	0.20
Structures and Commissioning	Forklifts	0	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Equipment Install	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Structures and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	200	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	199	0.36
Site Preparation	Rollers	1	8.00	240	0.38
Piping, Conduit, Concrete Install	Cranes	0	4.00	226	0.29
Piping, Conduit, Concrete Install	Forklifts	0	6.00	89	0.20

Piping, Conduit, Concrete Install	Rubber Tired Dozers	1	8.00	200	0.40
Piping, Conduit, Concrete Install	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Piping, Conduit, Concrete Install	Rollers	1	8.00	240	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Equipment Install	1	12.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	12.00	1.00	101.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Structures and Commissioning	0	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Piping, Conduit, Concrete Install	2	30.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0820	0.0000	6.0820	3.3170	0.0000	3.3170			0.0000			0.0000
Off-Road	3.1783	35.8229	15.0344	0.0302		1.7131	1.7131		1.5761	1.5761		3,093.9354	3,093.9354	0.9480		3,113.8429
Total	**3.1783**	**35.8229**	**15.0344**	**0.0302**	**6.0820**	**1.7131**	**7.7951**	**3.3170**	**1.5761**	**4.8931**		**3,093.9354**	**3,093.9354**	**0.9480**		**3,113.8429**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0887	1.3459	1.1234	3.7600e-003	0.0880	0.0192	0.1072	0.0241	0.0177	0.0417		373.0551	373.0551	2.7900e-003		373.1137
Vendor	8.4600e-003	0.0817	0.1174	2.2000e-004	6.2400e-003	1.2300e-003	7.4700e-003	1.7800e-003	1.1300e-003	2.9100e-003		21.4901	21.4901	1.6000e-004		21.4935
Worker	0.0499	0.0675	0.7053	1.6500e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		133.9843	133.9843	7.4200e-003		134.1401
Total	**0.1470**	**1.4951**	**1.9461**	**5.6300e-003**	**0.2283**	**0.0216**	**0.2500**	**0.0614**	**0.0199**	**0.0813**		**528.5294**	**528.5294**	**0.0104**		**528.7473**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0820	0.0000	6.0820	3.3170	0.0000	3.3170			0.0000			0.0000
Off-Road	3.1783	35.8229	15.0344	0.0302		1.7131	1.7131		1.5761	1.5761	0.0000	3,093.9354	3,093.9354	0.9480		3,113.8429
Total	**3.1783**	**35.8229**	**15.0344**	**0.0302**	**6.0820**	**1.7131**	**7.7951**	**3.3170**	**1.5761**	**4.8931**	**0.0000**	**3,093.9354**	**3,093.9354**	**0.9480**		**3,113.8429**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0887	1.3459	1.1234	3.7600e-003	0.0880	0.0192	0.1072	0.0241	0.0177	0.0417		373.0551	373.0551	2.7900e-003		373.1137
Vendor	8.4600e-003	0.0817	0.1174	2.2000e-004	6.2400e-003	1.2300e-003	7.4700e-003	1.7800e-003	1.1300e-003	2.9100e-003		21.4901	21.4901	1.6000e-004		21.4935

Worker	0.0499	0.0675	0.7053	1.6500e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		133.9843	133.9843	7.4200e-003		134.1401
Total	**0.1470**	**1.4951**	**1.9461**	**5.6300e-003**	**0.2283**	**0.0216**	**0.2500**	**0.0614**	**0.0199**	**0.0813**		**528.5294**	**528.5294**	**0.0104**		**528.7473**

3.3 Piping, Conduit, Concrete Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4208	16.9232	5.9392	0.0146		0.7291	0.7291		0.6708	0.6708		1,492.9620	1,492.9620	0.4574		1,502.5682
Total	**1.4208**	**16.9232**	**5.9392**	**0.0146**		**0.7291**	**0.7291**		**0.6708**	**0.6708**		**1,492.9620**	**1,492.9620**	**0.4574**		**1,502.5682**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0423	0.4087	0.5870	1.0900e-003	0.0312	6.1600e-003	0.0374	8.8800e-003	5.6600e-003	0.0145		107.4503	107.4503	8.1000e-004		107.4672
Worker	0.1247	0.1687	1.7633	4.1100e-003	0.3353	3.0400e-003	0.3384	0.0889	2.8000e-003	0.0917		334.9606	334.9606	0.0186		335.3502
Total	**0.1670**	**0.5773**	**2.3504**	**5.2000e-003**	**0.3665**	**9.2000e-003**	**0.3757**	**0.0978**	**8.4600e-003**	**0.1063**		**442.4110**	**442.4110**	**0.0194**		**442.8174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4208	16.9232	5.9392	0.0146		0.7291	0.7291		0.6708	0.6708	0.0000	1,492.9620	1,492.9620	0.4574		1,502.5682
Total	**1.4208**	**16.9232**	**5.9392**	**0.0146**		**0.7291**	**0.7291**		**0.6708**	**0.6708**	**0.0000**	**1,492.9620**	**1,492.9620**	**0.4574**		**1,502.5682**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0423	0.4087	0.5870	1.0900e-003	0.0312	6.1600e-003	0.0374	8.8800e-003	5.6600e-003	0.0145		107.4503	107.4503	8.1000e-004		107.4672
Worker	0.1247	0.1687	1.7633	4.1100e-003	0.3353	3.0400e-003	0.3384	0.0889	2.8000e-003	0.0917		334.9606	334.9606	0.0186		335.3502
Total	**0.1670**	**0.5773**	**2.3504**	**5.2000e-003**	**0.3665**	**9.2000e-003**	**0.3757**	**0.0978**	**8.4600e-003**	**0.1063**		**442.4110**	**442.4110**	**0.0194**		**442.8174**

3.4 Equipment Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6480	7.6930	2.7563	5.6400e-003		0.3430	0.3430		0.3155	0.3155		577.2380	577.2380	0.1769		580.9522

Total	**0.6480**	**7.6930**	**2.7563**	**5.6400e-003**		**0.3430**	**0.3430**		**0.3155**	**0.3155**		**577.2380**	**577.2380**	**0.1769**		**580.9522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0499	0.0675	0.7053	1.6500e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		133.9843	133.9843	7.4200e-003		134.1401
Total	**0.0668**	**0.2309**	**0.9401**	**2.0900e-003**	**0.1466**	**3.6800e-003**	**0.1503**	**0.0391**	**3.3800e-003**	**0.0425**		**176.9644**	**176.9644**	**7.7400e-003**		**177.1270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6480	7.6930	2.7563	5.6400e-003		0.3430	0.3430		0.3155	0.3155	0.0000	577.2380	577.2380	0.1769		580.9522
Total	**0.6480**	**7.6930**	**2.7563**	**5.6400e-003**		**0.3430**	**0.3430**		**0.3155**	**0.3155**	**0.0000**	**577.2380**	**577.2380**	**0.1769**		**580.9522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0499	0.0675	0.7053	1.6500e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		133.9843	133.9843	7.4200e-003		134.1401
Total	**0.0668**	**0.2309**	**0.9401**	**2.0900e-003**	**0.1466**	**3.6800e-003**	**0.1503**	**0.0391**	**3.3800e-003**	**0.0425**		**176.9644**	**176.9644**	**7.7400e-003**		**177.1270**

3.5 Structures and Commissioning - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0332	0.0450	0.4702	1.1000e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		89.3228	89.3228	4.9500e-003		89.4267
Total	**0.0502**	**0.2084**	**0.7050**	**1.5400e-003**	**0.1019**	**3.2700e-003**	**0.1052**	**0.0273**	**3.0100e-003**	**0.0303**		**132.3030**	**132.3030**	**5.2700e-003**		**132.4136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0169	0.1635	0.2348	4.4000e-004	0.0125	2.4600e-003	0.0149	3.5500e-003	2.2600e-003	5.8200e-003		42.9801	42.9801	3.2000e-004		42.9869
Worker	0.0332	0.0450	0.4702	1.1000e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		89.3228	89.3228	4.9500e-003		89.4267
Total	**0.0502**	**0.2084**	**0.7050**	**1.5400e-003**	**0.1019**	**3.2700e-003**	**0.1052**	**0.0273**	**3.0100e-003**	**0.0303**		**132.3030**	**132.3030**	**5.2700e-003**		**132.4136**

LADWP North Hollywood West Well Field Water Treatment
Project Construction - Worst-Case Day
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Assumes 0.31 acres disturbed, 2,500 sf storage facility and 4,000 sf UV treatment facility

Construction Phase - Modified with project specifics. Approximately 1-year of construction

Off-road Equipment - Site Prep: assumes Dozer (x1), Front Loader (x1), Roller (x1), Grader (x1), and Tractor/Loader/Backhoe (x1) for worse-case day

Off-road Equipment - Pipe/conduit/concrete: assumes Dozer (x1) and Roller (x1) for worse-case day

Off-road Equipment - Equipment Install: assumes Lattice Crane (x1) for worse-case day

Off-road Equipment - Structures/Commissioning: No equipment needed

Trips and VMT - Modified per applicant input

Grading - 1,213 CY of soil exported

Construction Off-road Equipment Mitigation - No Mitigation Included

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	PhaseEndDate	6/16/2017	7/28/2017
tblConstructionPhase	PhaseStartDate	1/28/2017	1/30/2017
tblConstructionPhase	PhaseStartDate	5/20/2017	7/1/2017
tblConstructionPhase	PhaseStartDate	7/29/2017	7/31/2017
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblGrading	AcresOfGrading	10.00	1.00
tblGrading	MaterialExported	0.00	1,213.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2018
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	152.00	101.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	3.3182	37.2637	16.8467	0.0360	6.3103	1.7347	8.0450	3.3784	1.5959	4.9743	0.0000	3,631.5027	3,631.5027	0.9583	0.0000	3,651.6271
Total	**3.3182**	**37.2637**	**16.8467**	**0.0360**	**6.3103**	**1.7347**	**8.0450**	**3.3784**	**1.5959**	**4.9743**	**0.0000**	**3,631.5027**	**3,631.5027**	**0.9583**	**0.0000**	**3,651.6271**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	3.3182	37.2637	16.8467	0.0360	6.3103	1.7347	8.0450	3.3784	1.5959	4.9743	0.0000	3,631.5026	3,631.5026	0.9583	0.0000	3,651.6271
Total	**3.3182**	**37.2637**	**16.8467**	**0.0360**	**6.3103**	**1.7347**	**8.0450**	**3.3784**	**1.5959**	**4.9743**	**0.0000**	**3,631.5026**	**3,631.5026**	**0.9583**	**0.0000**	**3,651.6271**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2017	1/27/2017	5	20	
2	Piping, Conduit, Concrete Install	Building Construction	1/30/2017	5/19/2017	5	80	
3	Equipment Install	Building Construction	7/1/2017	7/28/2017	5	20	
4	Structures and Commissioning	Building Construction	7/31/2017	12/15/2017	5	100	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Equipment Install	Cranes	1	8.00	226	0.29
Structures and Commissioning	Cranes	0	4.00	226	0.29
Equipment Install	Forklifts	0	6.00	89	0.20
Structures and Commissioning	Forklifts	0	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Equipment Install	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Structures and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	200	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	199	0.36
Site Preparation	Rollers	1	8.00	240	0.38
Piping, Conduit, Concrete Install	Cranes	0	4.00	226	0.29
Piping, Conduit, Concrete Install	Forklifts	0	6.00	89	0.20
Piping, Conduit, Concrete Install	Rubber Tired Dozers	1	8.00	200	0.40

Piping, Conduit, Concrete Install	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Piping, Conduit, Concrete Install	Rollers	1	8.00	240	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Equipment Install	1	12.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	12.00	1.00	101.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Structures and Commissioning	0	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Piping, Conduit, Concrete Install	2	30.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0820	0.0000	6.0820	3.3170	0.0000	3.3170			0.0000			0.0000
Off-Road	3.1783	35.8229	15.0344	0.0302		1.7131	1.7131		1.5761	1.5761		3,093.9354	3,093.9354	0.9480		3,113.8429
Total	**3.1783**	**35.8229**	**15.0344**	**0.0302**	**6.0820**	**1.7131**	**7.7951**	**3.3170**	**1.5761**	**4.8931**		**3,093.9354**	**3,093.9354**	**0.9480**		**3,113.8429**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0841	1.3002	0.9626	3.7700e-003	0.0880	0.0192	0.1071	0.0241	0.0176	0.0417		373.9335	373.9335	2.7600e-003		373.9914
Vendor	7.7000e-003	0.0798	0.0955	2.2000e-004	6.2400e-003	1.2200e-003	7.4600e-003	1.7800e-003	1.1200e-003	2.9000e-003		21.6704	21.6704	1.6000e-004		21.6737
Worker	0.0480	0.0608	0.7542	1.7400e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		141.9633	141.9633	7.4200e-003		142.1191
Total	**0.1398**	**1.4408**	**1.8123**	**5.7300e-003**	**0.2283**	**0.0216**	**0.2499**	**0.0614**	**0.0199**	**0.0813**		**537.5672**	**537.5672**	**0.0103**		**537.7842**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0820	0.0000	6.0820	3.3170	0.0000	3.3170			0.0000			0.0000
Off-Road	3.1783	35.8229	15.0344	0.0302		1.7131	1.7131		1.5761	1.5761	0.0000	3,093.9354	3,093.9354	0.9480		3,113.8429
Total	**3.1783**	**35.8229**	**15.0344**	**0.0302**	**6.0820**	**1.7131**	**7.7951**	**3.3170**	**1.5761**	**4.8931**	**0.0000**	**3,093.9354**	**3,093.9354**	**0.9480**		**3,113.8429**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0841	1.3002	0.9626	3.7700e-003	0.0880	0.0192	0.1071	0.0241	0.0176	0.0417		373.9335	373.9335	2.7600e-003		373.9914
Vendor	7.7000e-003	0.0798	0.0955	2.2000e-004	6.2400e-003	1.2200e-003	7.4600e-003	1.7800e-003	1.1200e-003	2.9000e-003		21.6704	21.6704	1.6000e-004		21.6737

Worker	0.0480	0.0608	0.7542	1.7400e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		141.9633	141.9633	7.4200e-003		142.1191
Total	**0.1398**	**1.4408**	**1.8123**	**5.7300e-003**	**0.2283**	**0.0216**	**0.2499**	**0.0614**	**0.0199**	**0.0813**		**537.5672**	**537.5672**	**0.0103**		**537.7842**

3.3 Piping, Conduit, Concrete Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4208	16.9232	5.9392	0.0146		0.7291	0.7291		0.6708	0.6708		1,492.9620	1,492.9620	0.4574		1,502.5682
Total	**1.4208**	**16.9232**	**5.9392**	**0.0146**		**0.7291**	**0.7291**		**0.6708**	**0.6708**		**1,492.9620**	**1,492.9620**	**0.4574**		**1,502.5682**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0385	0.3989	0.4773	1.1000e-003	0.0312	6.0900e-003	0.0373	8.8800e-003	5.6000e-003	0.0145		108.3520	108.3520	7.8000e-004		108.3684
Worker	0.1201	0.1521	1.8856	4.3600e-003	0.3353	3.0400e-003	0.3384	0.0889	2.8000e-003	0.0917		354.9083	354.9083	0.0186		355.2978
Total	**0.1586**	**0.5510**	**2.3628**	**5.4600e-003**	**0.3665**	**9.1300e-003**	**0.3757**	**0.0978**	**8.4000e-003**	**0.1062**		**463.2602**	**463.2602**	**0.0193**		**463.6662**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4208	16.9232	5.9392	0.0146		0.7291	0.7291		0.6708	0.6708	0.0000	1,492.9620	1,492.9620	0.4574		1,502.5682
Total	**1.4208**	**16.9232**	**5.9392**	**0.0146**		**0.7291**	**0.7291**		**0.6708**	**0.6708**	**0.0000**	**1,492.9620**	**1,492.9620**	**0.4574**		**1,502.5682**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0385	0.3989	0.4773	1.1000e-003	0.0312	6.0900e-003	0.0373	8.8800e-003	5.6000e-003	0.0145		108.3520	108.3520	7.8000e-004		108.3684
Worker	0.1201	0.1521	1.8856	4.3600e-003	0.3353	3.0400e-003	0.3384	0.0889	2.8000e-003	0.0917		354.9083	354.9083	0.0186		355.2978
Total	**0.1586**	**0.5510**	**2.3628**	**5.4600e-003**	**0.3665**	**9.1300e-003**	**0.3757**	**0.0978**	**8.4000e-003**	**0.1062**		**463.2602**	**463.2602**	**0.0193**		**463.6662**

3.4 Equipment Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6480	7.6930	2.7563	5.6400e-003		0.3430	0.3430		0.3155	0.3155		577.2380	577.2380	0.1769		580.9522

Total	**0.6480**	**7.6930**	**2.7563**	**5.6400e-003**		**0.3430**	**0.3430**		**0.3155**	**0.3155**		**577.2380**	**577.2380**	**0.1769**		**580.9522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0480	0.0608	0.7542	1.7400e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		141.9633	141.9633	7.4200e-003		142.1191
Total	**0.0634**	**0.2204**	**0.9451**	**2.1800e-003**	**0.1466**	**3.6600e-003**	**0.1503**	**0.0391**	**3.3600e-003**	**0.0425**		**185.3041**	**185.3041**	**7.7300e-003**		**185.4665**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6480	7.6930	2.7563	5.6400e-003		0.3430	0.3430		0.3155	0.3155	0.0000	577.2380	577.2380	0.1769		580.9522
Total	**0.6480**	**7.6930**	**2.7563**	**5.6400e-003**		**0.3430**	**0.3430**		**0.3155**	**0.3155**	**0.0000**	**577.2380**	**577.2380**	**0.1769**		**580.9522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0480	0.0608	0.7542	1.7400e-003	0.1341	1.2200e-003	0.1354	0.0356	1.1200e-003	0.0367		141.9633	141.9633	7.4200e-003		142.1191
Total	**0.0634**	**0.2204**	**0.9451**	**2.1800e-003**	**0.1466**	**3.6600e-003**	**0.1503**	**0.0391**	**3.3600e-003**	**0.0425**		**185.3041**	**185.3041**	**7.7300e-003**		**185.4665**

3.5 Structures and Commissioning - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0320	0.0406	0.5028	1.1600e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		94.6422	94.6422	4.9500e-003		94.7461
Total	**0.0474**	**0.2001**	**0.6937**	**1.6000e-003**	**0.1019**	**3.2500e-003**	**0.1052**	**0.0273**	**2.9900e-003**	**0.0303**		**137.9830**	**137.9830**	**5.2600e-003**		**138.0934**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0154	0.1596	0.1909	4.4000e-004	0.0125	2.4400e-003	0.0149	3.5500e-003	2.2400e-003	5.7900e-003		43.3408	43.3408	3.1000e-004		43.3474
Worker	0.0320	0.0406	0.5028	1.1600e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		94.6422	94.6422	4.9500e-003		94.7461
Total	**0.0474**	**0.2001**	**0.6937**	**1.6000e-003**	**0.1019**	**3.2500e-003**	**0.1052**	**0.0273**	**2.9900e-003**	**0.0303**		**137.9830**	**137.9830**	**5.2600e-003**		**138.0934**

LADWP North Hollywood West Well Field Water Treatment

Project Construction - Total Duration

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Assumes 0.31 acres disturbed, 2,500 sf storage facility and 4,000 sf UV treatment facility

Construction Phase - Modified with project specifics. Approximately 1-year of construction

Off-road Equipment - Site Prep: average equipment hours per day based on total equipment list and duration of phase

Off-road Equipment - Pipe/conduit/concrete: average equipment hours per day based on total equipment list and duration of phase

Off-road Equipment - Equipment Install: average equipment hours per day based on total equipment list and duration of phase

Off-road Equipment - Structures/Commissioning: No equipment needed

Trips and VMT - Modified per applicant input

Grading - 1,213 CY of soil exported

Construction Off-road Equipment Mitigation - No Mitigation Included

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	PhaseEndDate	6/16/2017	7/28/2017
tblConstructionPhase	PhaseStartDate	1/28/2017	1/30/2017
tblConstructionPhase	PhaseStartDate	5/20/2017	7/1/2017
tblConstructionPhase	PhaseStartDate	7/29/2017	7/31/2017
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblGrading	MaterialExported	0.00	1,213.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	80.00	240.00
tblOffRoadEquipment	HorsePower	85.00	130.00
tblOffRoadEquipment	HorsePower	171.00	85.00
tblOffRoadEquipment	HorsePower	80.00	81.00
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pumps

tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	1.10
tblOffRoadEquipment	UsageHours	8.00	0.40
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2018
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	152.00	101.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	1.00	5.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	VendorTripNumber	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	28.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblVehicleTrips	ST_TR	1.32	0.00

tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0296	0.2542	0.2499	5.4000e-004	0.0447	0.0112	0.0559	0.0178	0.0103	0.0282	0.0000	44.3817	44.3817	5.3900e-003	0.0000	44.4950
Total	**0.0296**	**0.2542**	**0.2499**	**5.4000e-004**	**0.0447**	**0.0112**	**0.0559**	**0.0178**	**0.0103**	**0.0282**	**0.0000**	**44.3817**	**44.3817**	**5.3900e-003**	**0.0000**	**44.4950**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0296	0.2542	0.2499	5.4000e-004	0.0447	0.0112	0.0559	0.0178	0.0103	0.0282	0.0000	44.3817	44.3817	5.3900e-003	0.0000	44.4950
Total	**0.0296**	**0.2542**	**0.2499**	**5.4000e-004**	**0.0447**	**0.0112**	**0.0559**	**0.0178**	**0.0103**	**0.0282**	**0.0000**	**44.3817**	**44.3817**	**5.3900e-003**	**0.0000**	**44.4950**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2017	1/27/2017	5	20	
2	Piping, Conduit, Concrete Install	Building Construction	1/30/2017	5/19/2017	5	80	
3	Equipment Install	Building Construction	7/1/2017	7/28/2017	5	20	
4	Structures and Commissioning	Building Construction	7/31/2017	12/15/2017	5	100	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Equipment Install	Cranes	1	4.00	226	0.29
Structures and Commissioning	Cranes	0	0.00	226	0.29
Equipment Install	Forklifts	0	0.00	89	0.20
Structures and Commissioning	Forklifts	0	0.00	89	0.20
Site Preparation	Graders	1	0.40	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Equipment Install	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Structures and Commissioning	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	2.80	200	0.40
Site Preparation	Rubber Tired Loaders	1	0.40	199	0.36
Site Preparation	Rollers	1	0.80	240	0.38
Piping, Conduit, Concrete Install	Cranes	1	1.10	226	0.29
Piping, Conduit, Concrete Install	Forklifts	0	0.00	89	0.20

Piping, Conduit, Concrete Install	Rubber Tired Dozers	1	0.20	200	0.40
Piping, Conduit, Concrete Install	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Piping, Conduit, Concrete Install	Rollers	1	0.20	240	0.38
Site Preparation	Crushing/Proc. Equipment	1	0.40	130	0.78
Site Preparation	Crawler Tractors	1	0.40	208	0.43
Site Preparation	Other Construction Equipment	3	0.40	85	0.42
Site Preparation	Plate Compactors	1	0.80	8	0.43
Piping, Conduit, Concrete Install	Pumps	1	0.60	84	0.74
Piping, Conduit, Concrete Install	Rollers	2	0.60	81	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Equipment Install	1	12.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	11	12.00	1.00	101.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Structures and Commissioning	0	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Piping, Conduit, Concrete Install	6	30.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0217	0.0000	0.0217	0.0117	0.0000	0.0117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8700e-003	0.0732	0.0328	6.0000e-005		3.8100e-003	3.8100e-003		3.5100e-003	3.5100e-003	0.0000	5.5474	5.5474	1.5900e-003	0.0000	5.5808

Total	**6.8700e-003**	**0.0732**	**0.0328**	**6.0000e-005**	**0.0217**	**3.8100e-003**	**0.0255**	**0.0117**	**3.5100e-003**	**0.0152**	**0.0000**	**5.5474**	**5.5474**	**1.5900e-003**	**0.0000**	**5.5808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.7000e-004	0.0137	0.0109	4.0000e-005	8.6000e-004	1.9000e-004	1.0600e-003	2.4000e-004	1.8000e-004	4.1000e-004	0.0000	3.3889	3.3889	3.0000e-005	0.0000	3.3895
Vendor	8.0000e-005	8.3000e-004	1.1200e-003	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1959	0.1959	0.0000	0.0000	0.1959
Worker	4.7000e-004	6.9000e-004	7.2100e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2351	1.2351	7.0000e-005	0.0000	1.2365
Total	**1.4200e-003**	**0.0152**	**0.0192**	**6.0000e-005**	**2.2300e-003**	**2.1000e-004**	**2.4600e-003**	**6.1000e-004**	**2.0000e-004**	**8.0000e-004**	**0.0000**	**4.8199**	**4.8199**	**1.0000e-004**	**0.0000**	**4.8218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0217	0.0000	0.0217	0.0117	0.0000	0.0117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8700e-003	0.0732	0.0328	6.0000e-005		3.8100e-003	3.8100e-003		3.5100e-003	3.5100e-003	0.0000	5.5474	5.5474	1.5900e-003	0.0000	5.5808
Total	**6.8700e-003**	**0.0732**	**0.0328**	**6.0000e-005**	**0.0217**	**3.8100e-003**	**0.0255**	**0.0117**	**3.5100e-003**	**0.0152**	**0.0000**	**5.5474**	**5.5474**	**1.5900e-003**	**0.0000**	**5.5808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.7000e-004	0.0137	0.0109	4.0000e-005	8.6000e-004	1.9000e-004	1.0600e-003	2.4000e-004	1.8000e-004	4.1000e-004	0.0000	3.3889	3.3889	3.0000e-005	0.0000	3.3895
Vendor	8.0000e-005	8.3000e-004	1.1200e-003	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1959	0.1959	0.0000	0.0000	0.1959
Worker	4.7000e-004	6.9000e-004	7.2100e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2351	1.2351	7.0000e-005	0.0000	1.2365
Total	**1.4200e-003**	**0.0152**	**0.0192**	**6.0000e-005**	**2.2300e-003**	**2.1000e-004**	**2.4600e-003**	**6.1000e-004**	**2.0000e-004**	**8.0000e-004**	**0.0000**	**4.8199**	**4.8199**	**1.0000e-004**	**0.0000**	**4.8218**

3.3 Piping, Conduit, Concrete Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6900e-003	0.0907	0.0448	8.0000e-005		4.8500e-003	4.8500e-003		4.5300e-003	4.5300e-003	0.0000	7.4248	7.4248	1.9000e-003	0.0000	7.4647
Total	**8.6900e-003**	**0.0907**	**0.0448**	**8.0000e-005**		**4.8500e-003**	**4.8500e-003**		**4.5300e-003**	**4.5300e-003**	**0.0000**	**7.4248**	**7.4248**	**1.9000e-003**	**0.0000**	**7.4647**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6400e-003	0.0167	0.0225	4.0000e-005	1.2300e-003	2.4000e-004	1.4700e-003	3.5000e-004	2.3000e-004	5.8000e-004	0.0000	3.9181	3.9181	3.0000e-005	0.0000	3.9187

Worker	4.6900e-003	6.9300e-003	0.0721	1.7000e-004	0.0132	1.2000e-004	0.0133	3.4900e-003	1.1000e-004	3.6000e-003	0.0000	12.3505	12.3505	6.7000e-004	0.0000	12.3646
Total	**6.3300e-003**	**0.0236**	**0.0946**	**2.1000e-004**	**0.0144**	**3.6000e-004**	**0.0147**	**3.8400e-003**	**3.4000e-004**	**4.1800e-003**	**0.0000**	**16.2686**	**16.2686**	**7.0000e-004**	**0.0000**	**16.2833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6900e-003	0.0907	0.0448	8.0000e-005		4.8500e-003	4.8500e-003		4.5300e-003	4.5300e-003	0.0000	7.4248	7.4248	1.9000e-003	0.0000	7.4647
Total	**8.6900e-003**	**0.0907**	**0.0448**	**8.0000e-005**		**4.8500e-003**	**4.8500e-003**		**4.5300e-003**	**4.5300e-003**	**0.0000**	**7.4248**	**7.4248**	**1.9000e-003**	**0.0000**	**7.4647**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6400e-003	0.0167	0.0225	4.0000e-005	1.2300e-003	2.4000e-004	1.4700e-003	3.5000e-004	2.3000e-004	5.8000e-004	0.0000	3.9181	3.9181	3.0000e-005	0.0000	3.9187
Worker	4.6900e-003	6.9300e-003	0.0721	1.7000e-004	0.0132	1.2000e-004	0.0133	3.4900e-003	1.1000e-004	3.6000e-003	0.0000	12.3505	12.3505	6.7000e-004	0.0000	12.3646
Total	**6.3300e-003**	**0.0236**	**0.0946**	**2.1000e-004**	**0.0144**	**3.6000e-004**	**0.0147**	**3.8400e-003**	**3.4000e-004**	**4.1800e-003**	**0.0000**	**16.2686**	**16.2686**	**7.0000e-004**	**0.0000**	**16.2833**

3.4 Equipment Install - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2400e-003	0.0385	0.0138	3.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	2.6183	2.6183	8.0000e-004	0.0000	2.6352
Total	**3.2400e-003**	**0.0385**	**0.0138**	**3.0000e-005**		**1.7100e-003**	**1.7100e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**2.6183**	**2.6183**	**8.0000e-004**	**0.0000**	**2.6352**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	1.6700e-003	2.2500e-003	0.0000	1.2000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.3918	0.3918	0.0000	0.0000	0.3919
Worker	4.7000e-004	6.9000e-004	7.2100e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2351	1.2351	7.0000e-005	0.0000	1.2365
Total	**6.3000e-004**	**2.3600e-003**	**9.4600e-003**	**2.0000e-005**	**1.4300e-003**	**3.0000e-005**	**1.4800e-003**	**3.9000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**1.6269**	**1.6269**	**7.0000e-005**	**0.0000**	**1.6283**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2400e-003	0.0385	0.0138	3.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	2.6183	2.6183	8.0000e-004	0.0000	2.6352

Total	**3.2400e-003**	**0.0385**	**0.0138**	**3.0000e-005**		**1.7100e-003**	**1.7100e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**2.6183**	**2.6183**	**8.0000e-004**	**0.0000**	**2.6352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	1.6700e-003	2.2500e-003	0.0000	1.2000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.3918	0.3918	0.0000	0.0000	0.3919
Worker	4.7000e-004	6.9000e-004	7.2100e-003	2.0000e-005	1.3100e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2351	1.2351	7.0000e-005	0.0000	1.2365
Total	**6.3000e-004**	**2.3600e-003**	**9.4600e-003**	**2.0000e-005**	**1.4300e-003**	**3.0000e-005**	**1.4800e-003**	**3.9000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**1.6269**	**1.6269**	**7.0000e-005**	**0.0000**	**1.6283**

3.5 Structures and Commissioning - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2000e-004	8.3400e-003	0.0113	2.0000e-005	6.1000e-004	1.2000e-004	7.4000e-004	1.8000e-004	1.1000e-004	2.9000e-004	0.0000	1.9590	1.9590	1.0000e-005	0.0000	1.9593
Worker	1.5600e-003	2.3100e-003	0.0240	6.0000e-005	4.3800e-003	4.0000e-005	4.4200e-003	1.1600e-003	4.0000e-005	1.2000e-003	0.0000	4.1168	4.1168	2.2000e-004	0.0000	4.1215
Total	**2.3800e-003**	**0.0107**	**0.0353**	**8.0000e-005**	**4.9900e-003**	**1.6000e-004**	**5.1600e-003**	**1.3400e-003**	**1.5000e-004**	**1.4900e-003**	**0.0000**	**6.0759**	**6.0759**	**2.3000e-004**	**0.0000**	**6.0809**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	8.2000e-004	8.3400e-003	0.0113	2.0000e-005	6.1000e-004	1.2000e-004	7.4000e-004	1.8000e-004	1.1000e-004	2.9000e-004	0.0000	1.9590	1.9590	1.0000e-005	0.0000	1.9593
Worker	1.5600e-003	2.3100e-003	0.0240	6.0000e-005	4.3800e-003	4.0000e-005	4.4200e-003	1.1600e-003	4.0000e-005	1.2000e-003	0.0000	4.1168	4.1168	2.2000e-004	0.0000	4.1215
Total	**2.3800e-003**	**0.0107**	**0.0353**	**8.0000e-005**	**4.9900e-003**	**1.6000e-004**	**5.1600e-003**	**1.3400e-003**	**1.5000e-004**	**1.4900e-003**	**0.0000**	**6.0759**	**6.0759**	**2.3000e-004**	**0.0000**	**6.0809**

Operational Assumptions and CalEEMod Outputs

LADWP - Effect of 25% RPS, Based on 2007 Baseline Data

2007 Emission Factor[1]	1,227.89	lb CO2/MWh	
2007 Renewables[2,3]	6%		
Without RPS	1306.27	lb CO2/MWh	
Future Renewables	25%		(by Dec 31 2016)
With Future RPS	979.70	lb CO2/MWh	
Reduction from 6% RPS	20.2%		

All renewable energy is assumed to be carbon neutral (i.e., no GHG emissions or from biogenic sources).

1. CalEEMod User's Guide, Appendix D, Table 1.2

2. LADWP Power Content Label for Year 2007

3. Tiangco, Valentino. Wheeling Power to Meet the California RPS. January 2011.

LADWP North Hollywood West Well Field Water Treatment Project -
Indirect GHG Emissions from Electricity Use (Power Plant Emissions)

Operations Annual Electrical Use: 21,976,810 kWh (kilowatt hours)/year annual average
21,977 mWh (megawatt hours)/year

		Annual		CO2	Annual
	Emission Factor*	Project	GHGs	Equivalent	CO2 Equivalent
Indirect GHG gases	lb/mWh	Electricity mWh	metric tons	Factor	Emissions (metric tons)
Carbon Dioxide (CO2)	979.7	21,977	9,766.16	1	9,766.16
Nitrous Oxide (N2O)	0.00617	21,977	0.0615	310	19.07
Methane (CH4)	0.029	21,977	0.2891	21	6.07

Total Indirect GHG Emissions from Operations Electricity Use = 9,791.30

* Emission factors for CO2, CH4, and N2O are from the CalEEMod software version 2013.2.2 for LADWP.
CO2 adjusted based on 25% RPS by the end of 2016

LADWP North Hollywood West Well Field Water Treatment Project
Operations - On-road and Equipment
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity generation GHGs calculated outside of CalEEMod

Land Use - 2,500 sf storage facility and 4,000 sf UV treatment facility

Operational activity emissions modeled using the Construction Module in CalEEMod, based on types of activities and sources

Phase - GAC replacement: 2 days per vessel, 10 vessels. Hydrogen peroxide (1x/month) and Lamp Replacement (1x/16 months)

Off-road Equipment - GAC Replacement: 1x Crane needed

Trips and VMT - GAC Replacement: 4 personnel, 30 one-way truck trips total; Peroxide and Lamps: 2 personnel each, 2-one way truck trips each

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	100.00	12.00

tblConstructionPhase	PhaseEndDate	1/31/2022	1/3/2022
tblConstructionPhase	PhaseEndDate	1/19/2022	1/18/2022
tblConstructionPhase	PhaseStartDate	1/29/2022	1/1/2022
tblConstructionPhase	PhaseStartDate	1/4/2022	1/1/2022
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2022
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00

tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5010	5.0653	3.6370	0.0119	0.2747	0.1918	0.4665	0.0737	0.1765	0.2502	0.0000	1,082.5953	1,082.5953	0.1875	0.0000	1,086.5321
Total	**0.5010**	**5.0653**	**3.6370**	**0.0119**	**0.2747**	**0.1918**	**0.4665**	**0.0737**	**0.1765**	**0.2502**	**0.0000**	**1,082.5953**	**1,082.5953**	**0.1875**	**0.0000**	**1,086.5321**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.5010	5.0653	3.6370	0.0119	0.2747	0.1918	0.4665	0.0737	0.1765	0.2502	0.0000	1,082.5953	1,082.5953	0.1875	0.0000	1,086.5321
Total	**0.5010**	**5.0653**	**3.6370**	**0.0119**	**0.2747**	**0.1918**	**0.4665**	**0.0737**	**0.1765**	**0.2502**	**0.0000**	**1,082.5953**	**1,082.5953**	**0.1875**	**0.0000**	**1,086.5321**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	GAC Replacement	Building Construction	1/1/2022	1/28/2022	5	20	
2	Lamp Replacement	Building Construction	1/1/2022	1/3/2022	5	1	
3	Hydrogen Peroxide	Building Construction	1/1/2022	1/18/2022	5	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
GAC Replacement	Cranes	1	8.00	226	0.29
GAC Replacement	Forklifts	0	0.00	89	0.20
GAC Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Lamp Replacement	Cranes	0	0.00	226	0.29
Lamp Replacement	Forklifts	0	0.00	89	0.20
Lamp Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Hydrogen Peroxide	Cranes	0	0.00	226	0.29
Hydrogen Peroxide	Forklifts	0	0.00	89	0.20
Hydrogen Peroxide	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
GAC Replacement	1	8.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Lamp Replacement	0	4.00	0.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Hydrogen Peroxide	0	4.00	0.00	24.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 GAC Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3649	4.0937	1.8514	5.6500e-003		0.1700	0.1700		0.1564	0.1564		546.7345	546.7345	0.1768		550.4478
Total	**0.3649**	**4.0937**	**1.8514**	**5.6500e-003**		**0.1700**	**0.1700**		**0.1564**	**0.1564**		**546.7345**	**546.7345**	**0.1768**		**550.4478**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0246	0.2485	0.3131	1.1100e-003	0.0261	5.5500e-003	0.0317	7.1600e-003	5.1100e-003	0.0123		104.2547	104.2547	8.7000e-004		104.2729
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0230	0.0303	0.3188	1.0900e-003	0.0894	7.5000e-004	0.0902	0.0237	7.0000e-004	0.0244		76.7969	76.7969	3.7300e-003		76.8751
Total	**0.0476**	**0.2788**	**0.6319**	**2.2000e-003**	**0.1156**	**6.3000e-003**	**0.1219**	**0.0309**	**5.8100e-003**	**0.0367**		**181.0515**	**181.0515**	**4.6000e-003**		**181.1480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3649	4.0937	1.8514	5.6500e-003		0.1700	0.1700		0.1564	0.1564	0.0000	546.7345	546.7345	0.1768		550.4478
Total	**0.3649**	**4.0937**	**1.8514**	**5.6500e-003**		**0.1700**	**0.1700**		**0.1564**	**0.1564**	**0.0000**	**546.7345**	**546.7345**	**0.1768**		**550.4478**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0246	0.2485	0.3131	1.1100e-003	0.0261	5.5500e-003	0.0317	7.1600e-003	5.1100e-003	0.0123		104.2547	104.2547	8.7000e-004		104.2729
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0230	0.0303	0.3188	1.0900e-003	0.0894	7.5000e-004	0.0902	0.0237	7.0000e-004	0.0244		76.7969	76.7969	3.7300e-003		76.8751
Total	**0.0476**	**0.2788**	**0.6319**	**2.2000e-003**	**0.1156**	**6.3000e-003**	**0.1219**	**0.0309**	**5.8100e-003**	**0.0367**		**181.0515**	**181.0515**	**4.6000e-003**		**181.1480**

3.3 Lamp Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	0.3313	0.4175	1.4800e-003	0.0349	7.4000e-003	0.0423	9.5500e-003	6.8100e-003	0.0164		139.0062	139.0062	1.1600e-003		139.0306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0115	0.0152	0.1594	5.5000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		38.3984	38.3984	1.8600e-003		38.4376
Total	**0.0443**	**0.3464**	**0.5769**	**2.0300e-003**	**0.0796**	**7.7800e-003**	**0.0874**	**0.0214**	**7.1600e-003**	**0.0286**		**177.4047**	**177.4047**	**3.0200e-003**		**177.4681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	0.3313	0.4175	1.4800e-003	0.0349	7.4000e-003	0.0423	9.5500e-003	6.8100e-003	0.0164		139.0062	139.0062	1.1600e-003		139.0306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0115	0.0152	0.1594	5.5000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		38.3984	38.3984	1.8600e-003		38.4376
Total	**0.0443**	**0.3464**	**0.5769**	**2.0300e-003**	**0.0796**	**7.7800e-003**	**0.0874**	**0.0214**	**7.1600e-003**	**0.0286**		**177.4047**	**177.4047**	**3.0200e-003**		**177.4681**

3.4 Hydrogen Peroxide - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	0.3313	0.4175	1.4800e-003	0.0349	7.4000e-003	0.0423	9.5500e-003	6.8100e-003	0.0164		139.0062	139.0062	1.1600e-003		139.0306

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0115	0.0152	0.1594	5.5000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		38.3984	38.3984	1.8600e-003		38.4376
Total	**0.0443**	**0.3464**	**0.5769**	**2.0300e-003**	**0.0796**	**7.7800e-003**	**0.0874**	**0.0214**	**7.1600e-003**	**0.0286**		**177.4047**	**177.4047**	**3.0200e-003**		**177.4681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	0.3313	0.4175	1.4800e-003	0.0349	7.4000e-003	0.0423	9.5500e-003	6.8100e-003	0.0164		139.0062	139.0062	1.1600e-003		139.0306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0115	0.0152	0.1594	5.5000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		38.3984	38.3984	1.8600e-003		38.4376
Total	**0.0443**	**0.3464**	**0.5769**	**2.0300e-003**	**0.0796**	**7.7800e-003**	**0.0874**	**0.0214**	**7.1600e-003**	**0.0286**		**177.4047**	**177.4047**	**3.0200e-003**		**177.4681**

LADWP North Hollywood West Well Field Water Treatment Project

Operations - On-road and Equipment

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity generation GHGs calculated outside of CalEEMod

Land Use - 2,500 sf storage facility and 4,000 sf UV treatment facility

Operational activity emissions modeled using the Construction Module in CalEEMod, based on types of activities and sources

Phase - GAC replacement: 2 days per vessel, 10 vessels. Hydrogen peroxide (1x/month) and Lamp Replacement (1x/16 months)

Off-road Equipment - GAC Replacement: 1x Crane needed

Trips and VMT - GAC Replacement: 4 personnel, 30 one-way truck trips total; Peroxide and Lamps: 2 personnel each, 2-one way truck trips each

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	100.00	12.00

tblConstructionPhase	PhaseEndDate	1/31/2022	1/3/2022
tblConstructionPhase	PhaseEndDate	1/19/2022	1/18/2022
tblConstructionPhase	PhaseStartDate	1/29/2022	1/1/2022
tblConstructionPhase	PhaseStartDate	1/4/2022	1/1/2022
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2022
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00

tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4959	5.0288	3.5179	0.0120	0.2747	0.1918	0.4665	0.0737	0.1765	0.2501	0.0000	1,092.7086	1,092.7086	0.1874	0.0000	1,096.6444
Total	**0.4959**	**5.0288**	**3.5179**	**0.0120**	**0.2747**	**0.1918**	**0.4665**	**0.0737**	**0.1765**	**0.2501**	**0.0000**	**1,092.7086**	**1,092.7086**	**0.1874**	**0.0000**	**1,096.6444**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4959	5.0288	3.5179	0.0120	0.2747	0.1918	0.4665	0.0737	0.1765	0.2501	0.0000	1,092.7086	1,092.7086	0.1874	0.0000	1,096.6444
Total	**0.4959**	**5.0288**	**3.5179**	**0.0120**	**0.2747**	**0.1918**	**0.4665**	**0.0737**	**0.1765**	**0.2501**	**0.0000**	**1,092.7086**	**1,092.7086**	**0.1874**	**0.0000**	**1,096.6444**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	GAC Replacement	Building Construction	1/1/2022	1/28/2022	5	20	
2	Lamp Replacement	Building Construction	1/1/2022	1/3/2022	5	1	
3	Hydrogen Peroxide	Building Construction	1/1/2022	1/18/2022	5	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
GAC Replacement	Cranes	1	8.00	226	0.29
GAC Replacement	Forklifts	0	0.00	89	0.20
GAC Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Lamp Replacement	Cranes	0	0.00	226	0.29
Lamp Replacement	Forklifts	0	0.00	89	0.20
Lamp Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Hydrogen Peroxide	Cranes	0	0.00	226	0.29
Hydrogen Peroxide	Forklifts	0	0.00	89	0.20
Hydrogen Peroxide	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
GAC Replacement	1	8.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Lamp Replacement	0	4.00	0.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Hydrogen Peroxide	0	4.00	0.00	24.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 GAC Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3649	4.0937	1.8514	5.6500e-003		0.1700	0.1700		0.1564	0.1564		546.7345	546.7345	0.1768		550.4478
Total	**0.3649**	**4.0937**	**1.8514**	**5.6500e-003**		**0.1700**	**0.1700**		**0.1564**	**0.1564**		**546.7345**	**546.7345**	**0.1768**		**550.4478**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0236	0.2401	0.2663	1.1100e-003	0.0261	5.5400e-003	0.0317	7.1600e-003	5.1000e-003	0.0123		104.5015	104.5015	8.6000e-004		104.5194
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0222	0.0274	0.3451	1.1600e-003	0.0894	7.5000e-004	0.0902	0.0237	7.0000e-004	0.0244		81.4011	81.4011	3.7300e-003		81.4793
Total	**0.0458**	**0.2675**	**0.6114**	**2.2700e-003**	**0.1156**	**6.2900e-003**	**0.1219**	**0.0309**	**5.8000e-003**	**0.0367**		**185.9025**	**185.9025**	**4.5900e-003**		**185.9988**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3649	4.0937	1.8514	5.6500e-003		0.1700	0.1700		0.1564	0.1564	0.0000	546.7345	546.7345	0.1768		550.4478
Total	**0.3649**	**4.0937**	**1.8514**	**5.6500e-003**		**0.1700**	**0.1700**		**0.1564**	**0.1564**	**0.0000**	**546.7345**	**546.7345**	**0.1768**		**550.4478**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0236	0.2401	0.2663	1.1100e-003	0.0261	5.5400e-003	0.0317	7.1600e-003	5.1000e-003	0.0123		104.5015	104.5015	8.6000e-004		104.5194
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0222	0.0274	0.3451	1.1600e-003	0.0894	7.5000e-004	0.0902	0.0237	7.0000e-004	0.0244		81.4011	81.4011	3.7300e-003		81.4793
Total	**0.0458**	**0.2675**	**0.6114**	**2.2700e-003**	**0.1156**	**6.2900e-003**	**0.1219**	**0.0309**	**5.8000e-003**	**0.0367**		**185.9025**	**185.9025**	**4.5900e-003**		**185.9988**

3.3 Lamp Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0315	0.3201	0.3550	1.4800e-003	0.0349	7.3900e-003	0.0422	9.5500e-003	6.7900e-003	0.0163		139.3353	139.3353	1.1400e-003		139.3593
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0111	0.0137	0.1726	5.8000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		40.7005	40.7005	1.8600e-003		40.7397
Total	**0.0426**	**0.3338**	**0.5276**	**2.0600e-003**	**0.0796**	**7.7700e-003**	**0.0873**	**0.0214**	**7.1400e-003**	**0.0286**		**180.0358**	**180.0358**	**3.0000e-003**		**180.0989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0315	0.3201	0.3550	1.4800e-003	0.0349	7.3900e-003	0.0422	9.5500e-003	6.7900e-003	0.0163		139.3353	139.3353	1.1400e-003		139.3593
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0111	0.0137	0.1726	5.8000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		40.7005	40.7005	1.8600e-003		40.7397
Total	**0.0426**	**0.3338**	**0.5276**	**2.0600e-003**	**0.0796**	**7.7700e-003**	**0.0873**	**0.0214**	**7.1400e-003**	**0.0286**		**180.0358**	**180.0358**	**3.0000e-003**		**180.0989**

3.4 Hydrogen Peroxide - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0315	0.3201	0.3550	1.4800e-003	0.0349	7.3900e-003	0.0422	9.5500e-003	6.7900e-003	0.0163		139.3353	139.3353	1.1400e-003		139.3593

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0111	0.0137	0.1726	5.8000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		40.7005	40.7005	1.8600e-003		40.7397
Total	**0.0426**	**0.3338**	**0.5276**	**2.0600e-003**	**0.0796**	**7.7700e-003**	**0.0873**	**0.0214**	**7.1400e-003**	**0.0286**		**180.0358**	**180.0358**	**3.0000e-003**		**180.0989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0315	0.3201	0.3550	1.4800e-003	0.0349	7.3900e-003	0.0422	9.5500e-003	6.7900e-003	0.0163		139.3353	139.3353	1.1400e-003		139.3593
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0111	0.0137	0.1726	5.8000e-004	0.0447	3.8000e-004	0.0451	0.0119	3.5000e-004	0.0122		40.7005	40.7005	1.8600e-003		40.7397
Total	**0.0426**	**0.3338**	**0.5276**	**2.0600e-003**	**0.0796**	**7.7700e-003**	**0.0873**	**0.0214**	**7.1400e-003**	**0.0286**		**180.0358**	**180.0358**	**3.0000e-003**		**180.0989**

LADWP North Hollywood West Well Field Water Treatment Project

Operations - On-road and Equipment

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.50	1000sqft	0.31	6,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	979.7	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity generation GHGs calculated outside of CalEEMod

Land Use - 2,500 sf storage facility and 4,000 sf UV treatment facility

Operational activity emissions modeled using the Construction Module in CalEEMod, based on types of activities and sources

Phase - GAC replacement: 2 days per vessel, 10 vessels. Hydrogen peroxide (1x/month) and Lamp Replacement (1x/16 months)

Off-road Equipment - GAC Replacement: 1x Crane needed

Trips and VMT - GAC Replacement: 4 personnel, 30 one-way truck trips total; Peroxide and Lamps: 2 personnel each, 2-one way truck trips each

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	100.00	12.00

tblConstructionPhase	PhaseEndDate	1/31/2022	1/3/2022
tblConstructionPhase	PhaseEndDate	1/19/2022	1/18/2022
tblConstructionPhase	PhaseStartDate	1/29/2022	1/1/2022
tblConstructionPhase	PhaseStartDate	1/4/2022	1/1/2022
tblEnergyUse	LightingElect	3.55	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.75	0.00
tblEnergyUse	T24NG	14.36	0.00
tblLandUse	LotAcreage	0.15	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	979.7
tblProjectCharacteristics	OperationalYear	2014	2022
tblSolidWaste	SolidWasteGenerationRate	8.06	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00

tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	1,503,125.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	4.3900e-003	0.0461	0.0285	9.0000e-005	1.6400e-003	1.8100e-003	3.4500e-003	4.4000e-004	1.6700e-003	2.1100e-003	0.0000	7.6659	7.6659	1.6600e-003	0.0000	7.7008
Total	**4.3900e-003**	**0.0461**	**0.0285**	**9.0000e-005**	**1.6400e-003**	**1.8100e-003**	**3.4500e-003**	**4.4000e-004**	**1.6700e-003**	**2.1100e-003**	**0.0000**	**7.6659**	**7.6659**	**1.6600e-003**	**0.0000**	**7.7008**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	4.3900e-003	0.0461	0.0285	9.0000e-005	1.6400e-003	1.8100e-003	3.4500e-003	4.4000e-004	1.6700e-003	2.1100e-003	0.0000	7.6658	7.6658	1.6600e-003	0.0000	7.7008
Total	**4.3900e-003**	**0.0461**	**0.0285**	**9.0000e-005**	**1.6400e-003**	**1.8100e-003**	**3.4500e-003**	**4.4000e-004**	**1.6700e-003**	**2.1100e-003**	**0.0000**	**7.6658**	**7.6658**	**1.6600e-003**	**0.0000**	**7.7008**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	GAC Replacement	Building Construction	1/1/2022	1/28/2022	5	20	
2	Lamp Replacement	Building Construction	1/1/2022	1/3/2022	5	1	
3	Hydrogen Peroxide	Building Construction	1/1/2022	1/18/2022	5	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
GAC Replacement	Cranes	1	8.00	226	0.29
GAC Replacement	Forklifts	0	0.00	89	0.20
GAC Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Lamp Replacement	Cranes	0	0.00	226	0.29
Lamp Replacement	Forklifts	0	0.00	89	0.20
Lamp Replacement	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Hydrogen Peroxide	Cranes	0	0.00	226	0.29
Hydrogen Peroxide	Forklifts	0	0.00	89	0.20
Hydrogen Peroxide	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
GAC Replacement	1	8.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Lamp Replacement	0	4.00	0.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Hydrogen Peroxide	0	4.00	0.00	24.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 GAC Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6500e-003	0.0409	0.0185	6.0000e-005		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	4.9599	4.9599	1.6000e-003	0.0000	4.9936
Total	**3.6500e-003**	**0.0409**	**0.0185**	**6.0000e-005**		**1.7000e-003**	**1.7000e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**4.9599**	**4.9599**	**1.6000e-003**	**0.0000**	**4.9936**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	2.5300e-003	3.0200e-003	1.0000e-005	2.6000e-004	6.0000e-005	3.1000e-004	7.0000e-005	5.0000e-005	1.2000e-004	0.0000	0.9471	0.9471	1.0000e-005	0.0000	0.9473
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	3.1000e-004	3.2700e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7080	0.7080	3.0000e-005	0.0000	0.7087
Total	**4.6000e-004**	**2.8400e-003**	**6.2900e-003**	**2.0000e-005**	**1.1400e-003**	**7.0000e-005**	**1.1900e-003**	**3.0000e-004**	**6.0000e-005**	**3.6000e-004**	**0.0000**	**1.6551**	**1.6551**	**4.0000e-005**	**0.0000**	**1.6559**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6500e-003	0.0409	0.0185	6.0000e-005		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	4.9599	4.9599	1.6000e-003	0.0000	4.9936
Total	**3.6500e-003**	**0.0409**	**0.0185**	**6.0000e-005**		**1.7000e-003**	**1.7000e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**4.9599**	**4.9599**	**1.6000e-003**	**0.0000**	**4.9936**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	2.5300e-003	3.0200e-003	1.0000e-005	2.6000e-004	6.0000e-005	3.1000e-004	7.0000e-005	5.0000e-005	1.2000e-004	0.0000	0.9471	0.9471	1.0000e-005	0.0000	0.9473
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	3.1000e-004	3.2700e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7080	0.7080	3.0000e-005	0.0000	0.7087
Total	**4.6000e-004**	**2.8400e-003**	**6.2900e-003**	**2.0000e-005**	**1.1400e-003**	**7.0000e-005**	**1.1900e-003**	**3.0000e-004**	**6.0000e-005**	**3.6000e-004**	**0.0000**	**1.6551**	**1.6551**	**4.0000e-005**	**0.0000**	**1.6559**

3.3 Lamp Replacement - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.7000e-004	2.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0631	0.0631	0.0000	0.0000	0.0632
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0177	0.0177	0.0000	0.0000	0.0177
Total	**3.0000e-005**	**1.8000e-004**	**2.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0808**	**0.0808**	**0.0000**	**0.0000**	**0.0809**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.7000e-004	2.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0631	0.0631	0.0000	0.0000	0.0632
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0177	0.0177	0.0000	0.0000	0.0177
Total	**3.0000e-005**	**1.8000e-004**	**2.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0808**	**0.0808**	**0.0000**	**0.0000**	**0.0809**

3.4 Hydrogen Peroxide - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9000e-004	2.0200e-003	2.4200e-003	1.0000e-005	2.1000e-004	4.0000e-005	2.5000e-004	6.0000e-005	4.0000e-005	1.0000e-004	0.0000	0.7577	0.7577	1.0000e-005	0.0000	0.7578

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	9.0000e-005	9.8000e-004	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2124	0.2124	1.0000e-005	0.0000	0.2126
Total	**2.5000e-004**	**2.1100e-003**	**3.4000e-003**	**1.0000e-005**	**4.7000e-004**	**4.0000e-005**	**5.2000e-004**	**1.3000e-004**	**4.0000e-005**	**1.7000e-004**	**0.0000**	**0.9701**	**0.9701**	**2.0000e-005**	**0.0000**	**0.9704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9000e-004	2.0200e-003	2.4200e-003	1.0000e-005	2.1000e-004	4.0000e-005	2.5000e-004	6.0000e-005	4.0000e-005	1.0000e-004	0.0000	0.7577	0.7577	1.0000e-005	0.0000	0.7578
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	9.0000e-005	9.8000e-004	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2124	0.2124	1.0000e-005	0.0000	0.2126
Total	**2.5000e-004**	**2.1100e-003**	**3.4000e-003**	**1.0000e-005**	**4.7000e-004**	**4.0000e-005**	**5.2000e-004**	**1.3000e-004**	**4.0000e-005**	**1.7000e-004**	**0.0000**	**0.9701**	**0.9701**	**2.0000e-005**	**0.0000**	**0.9704**

APPENDIX C

Biological Technical Report

BIOLOGICAL TECHNICAL REPORT
for the
NORTH HOLLYWOOD WEST WELL FIELD WATER TREATMENT PROJECT
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012
Contact: Nadia Parker

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Johanna Page

NOVEMBER 2016

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

APPENDICES

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

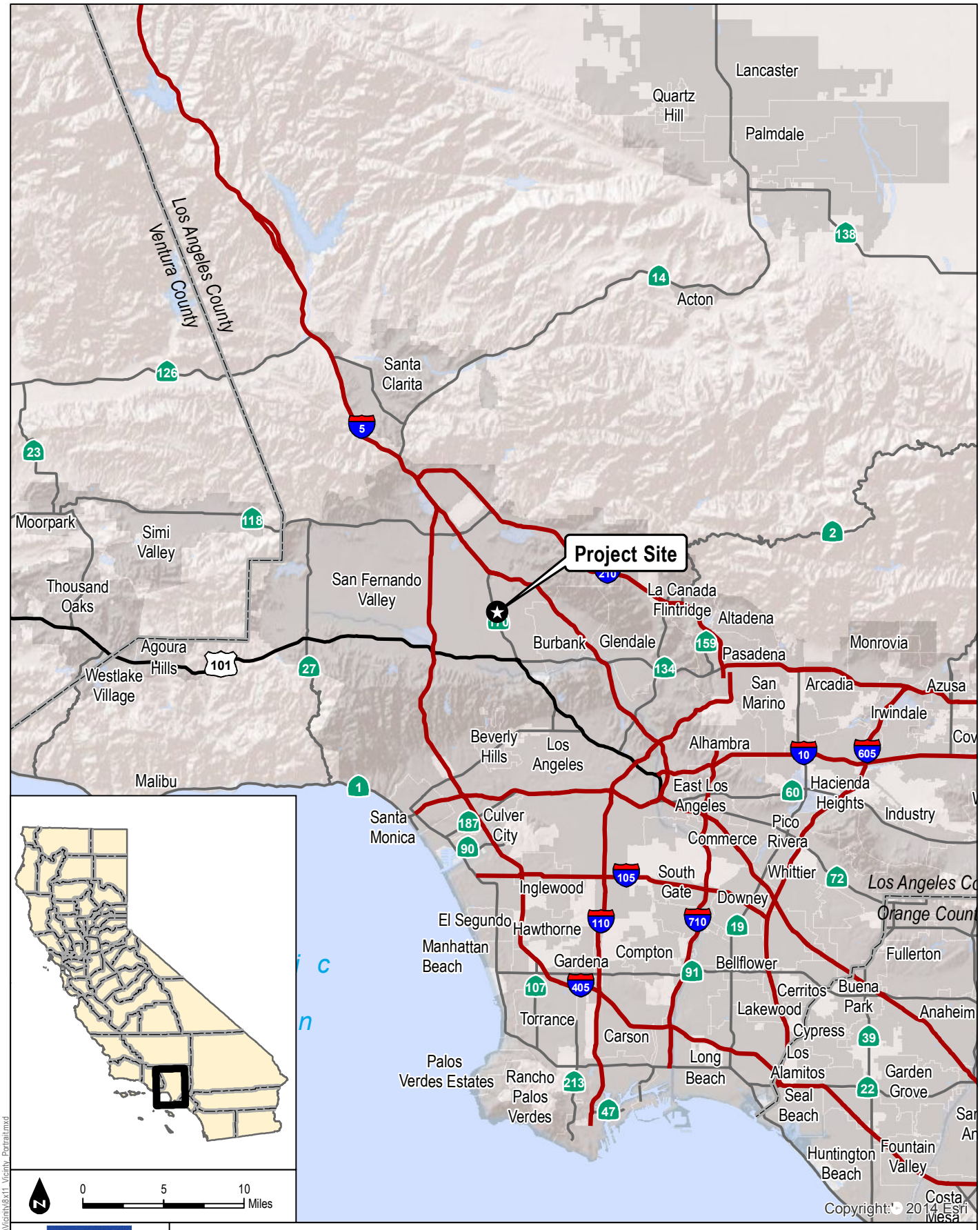
Acronym/Abbreviation	Definition
ACOE	U.S. Army Corps of Engineers
BCC	Bird of Conservation Concern
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
FD	federally delisted
FESA	federal Endangered Species Act
FP	fully protected
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Conservation System
MBTA	Migratory Bird Treaty Act
NCCP	natural communities conservation plan
SD	state delisted
SE	state endangered
SR	State Route
SSC	species of special concern
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Watch List

1 INTRODUCTION

This biological technical report describes the existing biological conditions of the 4-acre Project site for the North Hollywood West Well Field Water Treatment Project (Proposed Project). The site includes a 300-foot area surrounding the Project site (herein referred to as the study area), and is located northeast of the intersection of Vanowen Street and Whitsett Avenue, west of State Route (SR) 170 in the community of North Hollywood in the City of Los Angeles (Figures 1 and 2). The Project site is within an urban setting bordered by SR-170 to the east and surrounded by Whitsett Fields, which is part of Valley Plaza Park, to the north, west, and south.

The Los Angeles Department of Water and Power proposes to implement a response action to respond to address releases of 1,4 dioxane in groundwater that are migrating to the North Hollywood West (NHW) Well Field (Proposed Project). LADWP has removed seven wells within this well field from service due to the presence and/or threat of 1,4-dioxane contamination at the wells. This response action would be achieved by installing treatment equipment at the well field capable of removing the 1,4-dioxane to below the identified cleanup levels. The treatment equipment would be located on property owned by the Los Angeles Department of Water and Power that includes the affected groundwater extraction wellheads. The Proposed Project activities would entail site preparation (i.e., vegetation removal, excavation, and grading) and installation of underground and aboveground piping and facilities. The Proposed Project activities, including staging, would occur within the Project site defined in this report.

This report is intended to (1) describe the existing conditions of biological resources within the Project study area in terms of vegetation, flora, wildlife, and wildlife habitats; (2) describe potential impacts to biological resources that would result from implementation of the Proposed Project, and describe those impacts in terms of biological significance in view of federal, state, and local laws and policies; and (3) recommend mitigation measures for impacts to sensitive biological resources, if necessary.

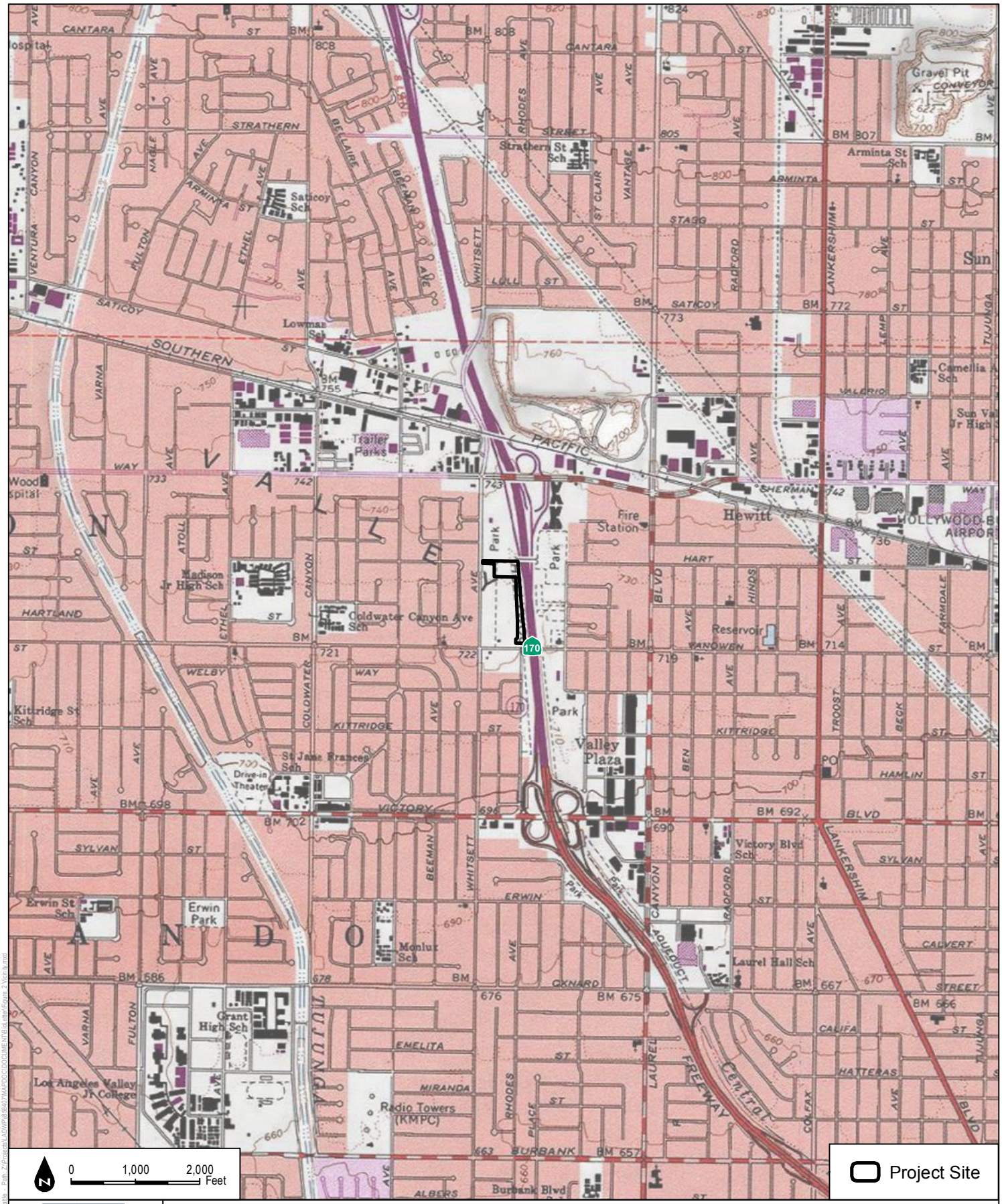


Z:\Templates\Arcmap\Current\Vicinity\8x11 Vicinity Portrait.mxd

FIGURE 1

Regional Map

North Hollywood West Well Field Water Treatment Project - Biological Technical Report



SOURCE: USGS 7.5-Minute Series Van Nuys Quadrangle

FIGURE 2

Vicinity Map

North Hollywood West Well Field Water Treatment Project - Biological Technical Report

2 PROJECT LOCATION

The approximately 4-acre Project site is located north of Vanowen Street, east of Whitsett Avenue and Whitsett Fields, immediately west of SR-170, and south of Sherman Way, within the community of North Hollywood in the City of Los Angeles, Los Angeles County, California (Figure 1). The Project site includes the area on which the treatment equipment would be installed, as well as two existing access drives. The Project site is located within a graded and highly disturbed area on private lands surrounded by Whitsett Fields, which is part of Valley Plaza Park. Access to the site is provided from the south off of Vanowen Street, and from the west off of Whitsett Avenue approximately 0.25 mile north of Vanowen Street. A Project study area encompassing the Project site and an area 300 feet from the Project site was created to evaluate biological resources potentially present, and direct and indirect impacts to those biological resources. The surrounding area is dominated by urban development populated with mixed commercial/residential development.

The Project site is situated in Section 01 of Township 1 North, Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle (Figures 1 and 2). The Project site is located on private land approximately 50 feet east from SR-170.

3 REGULATORY CONTEXT

This section describes the regulatory framework relevant for this Project.

3.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. FESA is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to take any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged and/or fill material into waters of the United States. The term "wetlands" (a subset of waters) is defined in 33 Code of Federal Regulations 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark, as defined in 33 Code of Federal Regulations 328.3(e). Pursuant to Section 10 of the Rivers and Harbors Act of 1899, ACOE regulates any potential obstruction or alteration of any navigable water of the United States.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others (16 U.S.C. 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species. Two species of eagles that are native to the United States—bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)—were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d) to prevent these species from becoming extinct.

3.2 State

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list." CESA does not list invertebrate species.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of "fully protected" species or "specified birds" (California Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

California Fish and Game Code Sections 1600–1602

Pursuant to Section 1602 of the California Fish and Game Code, CDFW 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. A Streambed Alteration Agreement is required for impacts to jurisdictional wetlands in accordance with Section 1602 of the California Fish and Game Code.

3.3 CEQA

The California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Because the Los Angeles Department of Water and Power may seek funding for this Project from the State Water Resources Control Board (State Water Board), the Project is also being reviewed in accordance with CEQA+, a process that consists of CEQA and any required federal cross-cutting studies. The CEQA+ process is required by the State Water Board to satisfy the environmental requirements of its Operating Agreement with the United States Environmental Protection Agency. In the event that federal funding is requested, this biological technical report will be part of an Environmental Package that may be submitted to the State Water Board as part of the funding application to fulfill CEQA+ requirements.

3.3.1 Special-Status Plants and Wildlife

The CEQA Guidelines define endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or

other factors" (14 CCR 15380[b][1]). A rare animal or plant is defined in CEQA Guideline 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing as defined further in CEQA Guideline 15380(c).

For purposes of this impact analysis, species are considered sensitive if they are (1) listed or proposed for listing by state or federal agencies as threatened or endangered; (2) plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) 1 through 4 (CNPS 2016); (3) considered rare, endangered, or threatened by the California Natural Diversity Database (CDFW 2016a, 2016b, 2016c, 2016d); or (4) locally designated or recognized by the City of Los Angeles.

Some mammals and birds are protected by the state as fully protected species, as described in the California Fish and Game Code Sections 4700 and 3511, respectively. Fully protected species may not be taken or possessed without a permit from the California Fish and Game Commission, and no permit is available for the incidental take of a fully protected species. Species considered state candidates for listing as threatened or endangered are subject to the taking prohibitions and provisions under CESA as if the species were listed.

3.3.2 Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game[1] or the U.S. Fish and Wildlife Service."

[1] Effective January 1, 2013, the California Department of Fish and Game changed its name to the California Department of Fish and Wildlife.

4 METHODS

Data regarding biological and jurisdictional resources present within the Project study area were obtained through a review of pertinent literature and field reconnaissance, described below.

4.1 Literature Reviewed

Prior to conducting the field investigation, a literature review was conducted to evaluate the environmental setting of the Project site and identify potential special-status biological resources that may be found on the site. The review included the Van Nuys 7.5-minute USGS quadrangle (USGS 1973) and the County of Los Angeles GIS data portal (County of Los Angeles 2014). Additionally, a database query was conducted to identify special-status biological resources present or potentially present within the vicinity of the Project site using the Natural Resource Conservation Service's Websoil Survey (USDA 2016a), California Natural Diversity Database (CNDDB) (CDFW 2016a), California Native Plant Society's (CNPS) *Online Inventory of Rare and Endangered Vascular Plants* (CNPS 2016), and USFWS species occurrence data (USFWS 2016a) and USFWS Information for Planning and Conservation System (IPaC) (USFWS 2016b). A 1-mile buffer around the Project site was queried in the USFWS data using GIS software, and a "nine-quad" query was conducted of the CNPS inventory and CNDDB. A nine-quad query includes the subject quadrangle and the eight USGS quadrangles surrounding the subject quadrangle.[2]

4.2 Resource Mapping

The Project site was surveyed by Dudek biologist Johanna Page on April 13, 2016. The biological survey included mapping vegetation communities and land covers present within the Project study area, evaluation of the presence of jurisdictional wetlands or waters, and evaluation of the potential for special-status species to occur in the Project study area. Table 1 includes the survey date and conditions.

Table 1
Survey Date and Conditions

Date	Biologist	Time	Temperature, Cloud Cover	Wind Speeds
4/13/2016	Johanna Page	0830–0945	Start Condition: 56°F, cc: 80% End Condition: 62°F, cc: 70%	0–2 mph winds

°F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover

[2] A search of the USGS 7.5-minute Van Nuys quadrangle and surrounding eight quadrangles (San Fernando, Sunland, Canoga Park, Topanga, Oat Mountain, Burbank, Beverly Hills, and Hollywood) was conducted for the CNDDB and CNPS searches; and a 1-mile radius search was conducted for the USFWS occurrence data.

The purpose of the field survey was to determine the likelihood of occurrence of any special-status plant or wildlife species based on the presence/absence of suitable habitat and other natural history elements that might predict their occurrence. The study area was methodically surveyed on foot, and all biological resources observed or detected were identified and inventoried. Expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Potential for special-status plant species was assessed based on habitat and soil conditions that are known to support species occurring in the region.

4.3 Vegetation Community and Land Cover Mapping

Vegetation communities and land uses within the study area were mapped in the field directly onto a 100-foot-scale (1 inch = 100 feet) aerial photograph-based field map of the Project site. Following completion of the fieldwork, all vegetation polygons were digitized using ArcGIS, and GIS coverage was created. Vegetation community classifications used in this report are based on the Manual of California Vegetation, Second Edition (Sawyer et al. 2009), with modifications in accordance with Holland (1986) to accommodate the lack of conformity of the observed communities to those included in these references. Photo documentation of the Project site is provided in Appendix A.

4.4 Flora

All native and naturalized plant species encountered on the Project site were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank follow the CNPS *Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2016). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2016), and common names follow the Natural Resources Conservation Service Plants Database (USDA 2016b). General information regarding plant species, identification, and nomenclature was obtained from *The Jepson Manual* (Baldwin et al. 2012). A list of plant species observed in the study area is presented in Appendix B.

The potential for special-status plant and wildlife species to occur on the Project site was evaluated based on site location, elevation, vegetation condition, vegetation/land covers, and soils present.

4.5 Fauna

Wildlife species observed or detected during field surveys by sight, calls, tracks, scat, or other signs were recorded. In addition to species actually observed, expected wildlife usage of the site

was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. No trapping or focused surveys for special-status or nocturnal species was conducted. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, the American Ornithologists' Union (AOU 2016) for birds, Wilson and Reeder (2005) for mammals, and the North American Butterfly Association (NABA 2001) for butterflies.

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. Binoculars (10 mm × 40 mm) were used to aid in the identification of observed wildlife. A compiled list of wildlife species observed in the study area is presented in Appendix C.

4.6 Jurisdictional Waters

Although a formal wetlands delineation following the methodology described in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008a), *Wetlands Delineation Manual* (ACOE 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008b) was not conducted during the field survey, the Project area was evaluated for the potential to support jurisdictional waters regulated under the federal Clean Water Act, California Fish and Game Code, and Porter-Cologne Water Quality Control Act.

4.7 Survey Limitations

Climatic conditions during the survey generally were favorable for identification of wildlife. Potential limitations of the survey included seasonal constraints, a diurnal bias, and the absence of focused trapping for small mammals and reptiles. As the survey was conducted in spring, plant species that bloom in early spring would have been detectable, although many species would not be expected to occur due to a lack of suitable habitat. Surveys were conducted during the daytime to maximize visibility for the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because they are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of which may only be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

5 ENVIRONMENTAL SETTING

5.1 Land Use

The neighborhood of North Hollywood is in the central San Fernando Valley region of the City of Los Angeles. North Hollywood is bordered by the neighborhoods of Valley Village to the south, Valley Glen to the west, Panorama City and Sun Valley to the north, and the City of Burbank to the east. The general vicinity surrounding the Project site is urban with a mix of low- to medium-density residential development and undeveloped open space. The western and northern boundary of the Project site is bordered by a recreational park (Whitsett Fields). SR-170 is located immediately east of the Project site. Vanowen Street occurs along the southern extent of the Project site.

The Project site contains two existing graded drives leading into the site. One of the drives provides access from Vanowen Street, and the second entry is from Whitsett Avenue. The site is disturbed and surrounded by ornamental vegetation. There are a few small buildings along the southern and central portion of the Project site, and well heads are interspersed throughout the area. A number of pipes are stored along the northeastern portion of the site.

5.2 Topography

The Project site is relatively flat, with elevations ranging between approximately 725 and 735 feet above mean sea level. The topography on site slopes slightly from north to south.

5.3 Soils

Soils on site are mapped as Tujunga Fine Sandy Loam. The Tujunga Series are formed in alluvium from granitic sources and consist of very deep, somewhat excessively drained soils (WRD 2004). These soils are formed in alluvium weathered from granitic sources or similar material within elevations ranging between 6 and 1,970 feet (USDA 2016a). Tujunga soils are on alluvial fans, floodplains, and urban areas on slopes ranging between 0% and 9%. Tujunga fine sandy loam is friable with micaceous fine sandy loam to a depth varying from 1 to 6 feet. This soil is uniform in texture; however, along stream bottoms, layers of sand, fine sand, silt, or fine gravel may be found below a depth of 12 inches (Nelson et al.1919).

6 RESULTS

6.1 Vegetation Communities and Land Covers

Three land covers were mapped within the study area based on general physiognomy and species composition: disturbed habitat, ornamental vegetation, and urban/developed. No vegetation communities were identified within the study area. These land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figure 3.

Table 2
Acreages of Vegetation Communities and Land Covers

Vegetation Community/ Land Cover Type	Project Site (Acreage)	Study Area (Acreage)
Land Cover Types		
Disturbed Habitat	1.81	1.81
Ornamental Vegetation	1.78	20.29
Urban/Developed	0.72	13.87
Total	**4.31**[a]	**35.97**[a]

[a] Total may not sum due to rounding.

6.1.1 Disturbed Habitat

Disturbed habitat refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation. Areas mapped as disturbed land may include unpaved roads, trails, and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species.

The majority of the Project site consists of disturbed habitat such as dirt roads and graded areas. There are portions of disturbed habitat where no vegetation occurs because the area is graded. Other areas less recently disturbed had some annual weedy species present, including bromes (*Bromus* spp.), slender oat (*Avena barbata*), London rocket (*Sisymbrium irio*), black mustard (*Brassica nigra*), cheeseweed mallow (*Malva parviflora*), annual yellow sweetclover (*Melilotus indicus*), and stork's bill (*Erodium* spp.).

SOURCE: USGS 7.5-Minute Series Van Nuys Quadrangle

FIGURE 3

Biological Resources Map

North Hollywood West Well Field Water Treatment Project - Biological Technical Report

6.1.2 Ornamental Vegetation

Ornamental vegetation consists of introduced plantings of exotic species as landscaping, including greenbelts, parks, and horticultural plantings (Jones and Stokes 1993). Ornamental plantings within the study area are dominated by pines (*Pinus* spp.), eucalyptus (*Eucalyptus* spp.), Peruvian peppertree (*Schinus molle*), ornamental cactus, and regularly maintained lawns and sports fields (i.e., soccer field, baseball field, and football field). Ornamental plantings border the Project site and dominate the study area within Valley Plaza Park. An ornamental *Prunus caroliniana* is prevalent along the western boundary of the Project site; Peruvian peppertrees dominate the northern perimeter of the Project site; and eucalyptus species are prevalent along the eastern edge of the Project site, west of SR-170.

6.1.3 Urban/Developed

Developed land consists of buildings, structures, homes, parking lots, paved roads, and maintained areas. Developed areas do not support native vegetation. Disturbed habitat refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation.

Developed land occurs within the southern portion of the Project site and along the northwestern, eastern, and southern borders of the study area. Developed area within the study area is dominated by residential and commercial development, paved city roads, and SR-170. These areas support limited natural ecological processes, native vegetation, or habitat for wildlife species and, thus, are not considered sensitive by local, state, or federal agencies.

6.2 Floral Diversity

A total of 26 species of native or naturalized vascular plants, four native (15%) and 22 non-native (85%), were recorded within the Project site (see Appendix B). The Project site is routinely disturbed, noted by the compacted soils and dominant non-native weedy herbaceous species. Recreational parks dominated by non-native grasses and ornamental plants dominate the area immediately adjacent to the Project site. Whitsett Fields has 15 baseball and soccer fields; thus, the area is regularly maintained, providing minimal opportunity for native plants to re-establish. Additionally, there is minimal native habitat adjacent to or within a 1-mile radius of the Project site.

6.3 Wildlife Diversity

Nine wildlife species were recorded within the study area (Appendix C). Most species observed were birds because of relative species abundance and the diurnal nature of the biological

reconnaissance survey. Common species observed included Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), house sparrow (*Passer domesticus*), and rock pigeon (*Columba livia*). One mammal species was observed within the study area, California ground squirrel (*Spermophilus* [=*Otospermophilus*] *beecheyi*). Overall, the diversity of wildlife species in the Project site was low relative to the size of the Project site due to the high disturbance on site and presence of minimal native habitat.

Although only nine species were documented during the general biological resource survey, the study area likely supports more urban-adapted species. Other common species that may have a potential to occur based on habitats present include checkered white (*Pontia protodice*), cabbage butterfly (*Pieris rapae*), western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), Virginia opossum (*Didelphis virginiana*), Botta's pocket gopher (*Thomomys bottae*), and raccoon (*Procyon lotor*).

6.4 Special-Status Resources

6.4.1 Special-Status Plant Species

Endangered, rare, or threatened plant species, as defined in Section 15380(b) of the CEQA Guidelines (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report and include endangered or threatened plant species recognized in the context of CESA and FESA (CDFW 2016c), plant species with a CRPR 1 through 4 (CNPS 2016), and locally designated or recognized plant species (City of Los Angeles 2006a).

Although a focused special-status plant survey was not conducted for the Project site, the field survey was conducted in April during the blooming period for a majority of the special-status plant species known to occur within the region based on the literature review. Thus, special-status plant species would have been detectable if present, and all plants detected during the site visit were recorded. No special-status plant species were identified within the site during the 2016 reconnaissance survey. In addition, there is no USFWS-designated critical habitat for listed plant species within the Project site (USFWS 2016a).

Special-status plant species known to occur in the surrounding region are presented in Appendix D. The evaluation of each species' potential to occur on site was based on an analysis of elevation, soils, vegetation communities, and level of disturbance of the site in conjunction with the known distribution of special-status species in the vicinity of the Project site. A number

of potentially occurring plant species are conspicuous (e.g., large, woody shrubs) and readily observed if present within an open and largely disturbed site.

Special-Status Plant Species Observed on Site

No special-status plant species were observed on site during the general biological reconnaissance survey.

Special-Status Plant Species with Moderate or High Potential to Occur

After assessment in the field, no special-status plant species were determined to have a moderate or high potential to occur within the Project study area due to the lack of appropriate habitat and the extent of disturbed habitat present on site. According to the USFWS IPaC Trust Resource Report (USFWS 2016b), one special-status plant species was recorded as potentially occurring or having the potential to be affected by the Proposed Project activities: Gambel's watercress (*Rorippa gambellii*; federally endangered, state threatened, and CRPR 1B.1). However, no suitable marshes or swamp habitats required by this species occur on the Project site or within the study area. Thus, this plant species is not expected to occur within the Project site or be impacted by Proposed Project activities. Additionally, the field survey was conducted during the blooming period (April through October) for this species, and this species was not observed.

The closest CNDDB documented special-status plant species occurrence is for San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; federal candidate and state endangered species), recorded more than 1 mile southeast of the study area, east of SR-170 (CDFW 2016a) (see also Figure 4). This population is possibly extirpated due to development, thus it has a low potential to occur based on the high level of disturbance within the Project site and study area. Additionally, the field survey was conducted during the blooming period for this species (April through July), and it was not observed on the Project site.

6.4.2 Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species, as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status wildlife species" and, as used in this report, include (1) endangered or threatened wildlife species recognized in the context of CESA and FESA (CDFW 2016d); (2) California Species of Special Concern and Watch List species, as designated by CDFW (2016d); (3) mammals and birds that are fully protected species, as described in the California Fish and Game Code, Sections 4700 and 3511; (4) Birds of Conservation Concern as designated by USFWS (2008); and (5) and locally designated or recognized plant species (City of Los Angeles 2006a).

Special-status wildlife species known to occur in the surrounding region or observed within the study area are presented in Appendix E (see also Figure 4). For each species listed, a determination was made regarding the potential for the species to occur on site based on information gathered during the literature review and site visits, including the location of the site, vegetation communities or land covers present, current site conditions, and past and present land use.

Special-Status Wildlife Species Observed on Site

No special-status wildlife species were observed on site during the general biological reconnaissance survey.

Special-Status Wildlife Species with High Potential to Occur

Two special-status species have a moderate potential to occur within the study area: Cooper's hawk (*Accipiter cooperii*) and pallid bat (*Antrozous pallidus*). No special-status wildlife species were observed during the field visit conducted in April 2016 or identified as having a high potential to occur within the study area.

According to the USFWS IPaC Trust Resource Report (2016b; Appendix F), three special-status wildlife species were recorded as potentially occurring or having the potential to be affected by the Proposed Project activities: California condor (*Gymnogyps californianus*; federally endangered, state endangered, state fully protected), coastal California gnatcatcher (*Polioptila californica californica*; federally threatened, CDFW species of special concern), and least Bell's vireo (*Vireo bellii pusillus*; federally endangered, state endangered, species of special concern). However, no suitable riparian habitat required by least Bell's vireo; coastal scrub habitats required by coastal California gnatcatcher; or rock formations, deep caves, and/or foraging habitat to support California condor occur on the Project site or within the study area. Additionally, the Project site is outside of the known geographic range for California condor. Thus, these special-status wildlife species are not expected to occur within the Project site or be impacted by Proposed Project activities.

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW Watch List species. This species is found throughout California in wooded areas. It inhabits live oak, riparian, deciduous, and other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawk uses patchy woodlands and edges with snags for perching while they are hunting for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990). Cooper's hawk would be expected to

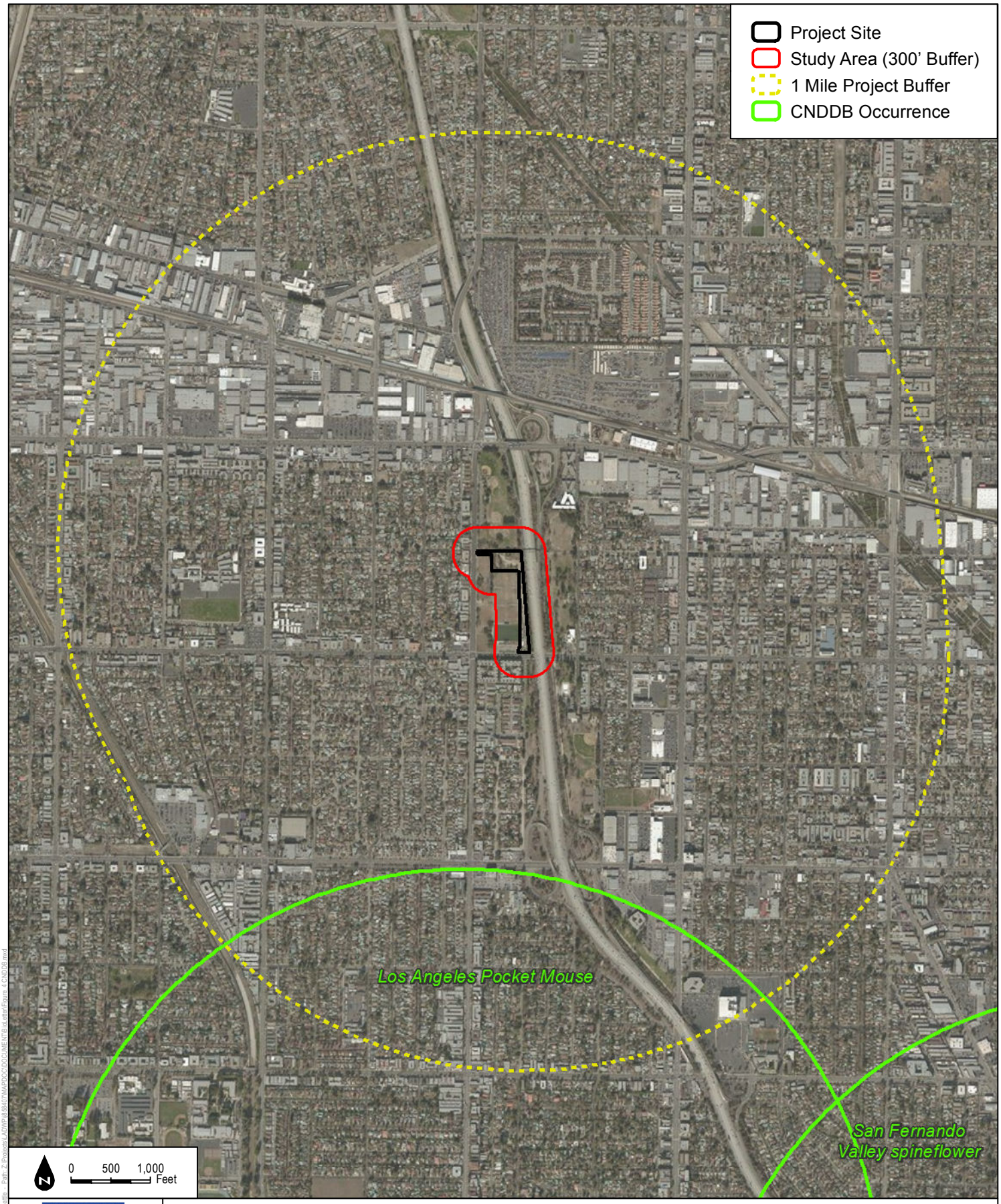
forage over the Project study area, and there are large trees that could be used for nesting by this species. This species is becoming a common resident in urban areas.

Pallid Bat (*Antrozous pallidus*)

Pallid bat is a CDFW species of special concern. It is widespread throughout the western United States; southern British Columbia, Canada; and mainland and Baja California, Mexico. The species is locally common in arid deserts (especially the Sonoran life zone) and grasslands throughout the western United States, and also occurs in shrublands, woodlands, and forests at elevations up to 8,000 feet (Hall 1981; Hermanson and O'Shea 1983). Although this species prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging, it has been observed far from such areas (Hermanson and O'Shea 1983). Pallid bat has a moderate potential to occasionally forage over the Project site's disturbed habitat, and may find suitable roosting habitat in adjacent buildings. However, evidence of bats (guano and/or roosts) was not identified within the Project site during the site visit.

6.4.3 Critical Habitat

No USFWS-designated critical habitat for listed wildlife species exists within the study area (USFWS 2016a). The closest USFWS-designated critical habitat is for southwestern willow flycatcher, located approximately 4.5 miles north of the Project site. However, the Project site and adjacent areas (i.e., dense riparian habitats along streams, reservoirs, or wetlands) do not provide suitable habitat for southwestern willow flycatcher (USFWS 2016a).



SOURCE: USGS 7.5-Minute Series Van Nuys Quadrangle

FIGURE 4

California Natural Diversity Database Special-Status Species

North Hollywood West Well Field Water Treatment Project - Biological Technical Report

6.4.4 Migratory Bird Treaty Act

According to the USFWS IPaC Trust Resource Report (2016b; Appendix F), 26 species of migratory birds could potentially be affected by activities within the Project site:

- Allen's hummingbird (breeding) (*Selasphorus sasin*; USFWS Bird of Conservation Concern (BCC))
- Bald eagle (wintering) (*Haliaeetus leucocephalus*; federally delisted (FD)/state endangered (SE), fully protected (FP))
- Least Bell's vireo (breeding) (*Vireo bellii pusillus*; USFWS BCC/SE, CDFW species of special concern (SSC))
- Brewer's sparrow (year-round) (*Spizella breweri*; USFWS BCC)
- Burrowing owl (year-round) (*Athene cunicularia*; BCC/CDFW SSC)
- Cactus wren (year-round) (*Campylorhynchus brunneicapillus*; USFWS BCC/CDFW SSC)
- Costa's hummingbird (breeding) (*Calypte costae*; USFWS BCC)
- Fox sparrow (wintering) (*Passerella iliaca*)
- Green-tailed towhee (breeding) (*Pipilo chlorurus*)
- Least bittern (year-round) (*Ixobrychus exilis*; USFWS BCC/CDFW SSC)
- Lesser yellowlegs (wintering) (*Tringa flavipes*)
- Lewis' woodpecker (wintering) (*Melanerpes lewis*; USFWS BCC)
- Loggerhead shrike (year-round) (*Lanius ludovicianus*; USFWS BCC/CDFW SSC)
- Long-billed curlew (wintering) (*Numenius americanus*; USFWS BCC/CDFW Watch List [WL])
- Marbled godwit (wintering) (*Limosa fedoa*)
- Nuttall's woodpecker (year-round) (*Picoides nuttallii*; USFWS BCC)
- Oak titmouse (year-round) (*Baeolophus inornatus*; USFWS BCC)
- Olive-sided flycatcher (breeding) (*Contopus cooperi*; USFWS BCC/CDFW SSC)
- American peregrine falcon (wintering) (*Falco peregrinus anatum*; FD, USFWS BCC/ state delisted [SD], CDFW FP)
- Red-crowned parrot (year-round) (*Amazona viridigenalis*)
- Southern California rufous-crowned sparrow (year-round) (*Aimophila ruficeps*; CDFW WL)

- Short-eared owl (wintering) (*Asio flammeus*; CDFW SSC)
- Western snowy plover (breeding) (*Charadrius alexandrines nivosus*; FT, USFWS BCC/ CDFW SSC)
- Western grebe (wintering) (*Aechmophorus occidentalis*)
- Yellow warbler (breeding) (*Dendroica petechia* ssp. *Brewsteri*; USFWS BCC/CDFW SSC)
- Red knot (wintering) (*Calidris canutus* ssp. *roselaari*)

None of the migratory bird species provided within the USFWS IPaC Trust Resource Report have a potential to occur within the Project site given the disturbed nature of the site, lack of suitable wetland and riparian areas, and lack of forested areas. Some of the ornamental trees within the study area may provide suitable habitat to support other nesting birds protected under the MBTA and/or California Fish and Game Code.

6.5 Jurisdictional Waters

Although an official jurisdictional delineation was not performed, hydrology and vegetation were examined throughout the Project study area during the site visit to identify potential wetland sites and/or non-wetland waters (e.g., drainages, channels). No jurisdictional wetlands or non-wetland waters occur within the study area. The closest jurisdictional drainage is Central Branch Tujunga Wash, approximately 300 feet southeast of the Project site, east of SR-170. No state wetlands or wetlands under the jurisdiction of ACOE occur in the study area.

6.6 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals and dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability in several ways: (1) they ensure continual exchange of genes between populations, which helps maintain genetic diversity; (2) they provide access to adjacent habitat areas representing additional territory for foraging and mating; (3) they allow for a greater carrying capacity; and (4) they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (i.e., the rescue effect).

Habitat linkages are stretches of native habitat that function to join two larger habitat areas. These stretches may be represented by continuous patches of habitat or by nearby habitat "islands" that function as stepping stones for dispersal and movement (especially for birds and flying insects). These linkages function as connectors that reduce the adverse effects of habitat

fragmentation. Habitat fragmentation may lead to decreased gene flow for small animals such as reptiles, amphibians, and rodents.

Valley Plaza Park, which includes Whitsett Fields, parallels SR-170 to the east and west. Valley Plaza Park is bound by Sherman Way to the north, Whitsett Avenue to the west, Laurel Canyon Boulevard to the south, and Laurelgrove Avenue and St. Clair Avneue to the east. The areas surrounding Valley Plaza Park to the north, south, east, and west support mixed commercial/residential development and heavily used roads, which contributes to habitat fragmentation and restricted wildlife movement. The majority of Whitsett Fields (west of SR-170) is composed of baseball and soccer fields composed mainly of non-native vegetation communities that may provide some marginal use to local wildlife species movement. Portions of Valley Plaza Park east of SR-170 provide slightly better habitat for wildlife movement. SR-170 is a north/south freeway, limiting east/west wildlife movement.

The Project site is currently fenced on all sides and is situated adjacent to Whitsett Fields, west of SR-170. A narrow strip of ornamental vegetation borders the Project site to the east, which may be used by local wildlife as a movement corridor. The Project site would continue to be fenced as a result of the Project, and the ornamental vegetation along the eastern boundary of the Project site (immediately west of SR-170) would not be affected by the Proposed Project's activities. Implementation of the Proposed Project would not degrade or change current local or regional wildlife movement or use in this area.

6.7 City of Los Angeles Protected Trees

The City of Los Angeles Protected Tree Ordinance, as modified by Ordinance 177404, provides guidelines for the preservation of native Southern California tree species measuring 4 inches or more in cumulative diameter at 4.5 feet above the ground from the base of the tree (City of Los Angeles 2006b). Trees protected under this ordinance include all oak trees indigenous to California (excluding scrub oak (*Quercus dumosa*)), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*). Protected trees as defined in the City of Los Angeles Protected Tree Ordinance do not occur within the Project site. However, California sycamore trees meeting this definition do occur immediately outside of the Project site within the study area.

7 IMPACTS

The Proposed Project would involve site preparation (i.e., vegetation and tree removal, excavation, fine grading, and soil compaction), installation of underground facilities (i.e., piping, conduit, and concrete installation), and construction of above-ground equipment and facilities (i.e., peroxide storage building, UV building). Proposed Project activities, including staging, would occur within the approximately 4-acre Project site defined in this report. Although the underground piping and conduit once installed would be backfilled and compacted, impacts are considered permanent within the Project footprint to account for minor operations and maintenance activities associated with the facility.

7.1 Vegetation Communities and Land Covers

Direct Impacts

The Project site does not support any natural vegetation or sensitive vegetation communities. Development of the site would not result in significant impacts to vegetation communities. Implementation of the Proposed Project would not result in temporary or permanent impacts to sensitive vegetation communities. Therefore, direct impacts to sensitive vegetation communities are not anticipated.

Indirect Impacts

Indirect impacts to sensitive land covers are not anticipated to occur during Proposed Project activities. All work is proposed to occur within the Project site, and the Project site and surrounding areas (i.e., study area) do not support sensitive vegetation communities.

Because Project work would be temporary, long-term indirect impacts to sensitive land covers are not anticipated. Therefore, long-term indirect impacts to sensitive vegetation communities are not anticipated.

7.2 Special-Status Plants

Direct Impacts

No special-status plant species were detected within the study area, and because the Project site and adjacent areas are highly disturbed, sensitive plant species are not likely to be present. Therefore, direct impacts to special-status plant species are not anticipated.

Indirect Impacts

Special-status plant species are not expected to occur in the Project study area or in areas immediately adjacent to the site. Therefore, indirect impacts to special-status plant species are not anticipated to occur.

7.3 Special-Status Wildlife

Direct Impacts

Although no special-status wildlife species have been documented within the Project study area, there is potentially suitable habitat for two special-status wildlife species, as described in Section 6.4.2. Direct impacts to pallid bats occasionally foraging within the Project site is not expected due to the location of the Project impact area and proposed construction hours (7 a.m. to 6 p.m.). However, there could be potential impacts to special-status nesting raptors, including Cooper's hawk. Therefore, direct impacts to this species could occur due to Project implementation. Potential impacts would be avoided through implementation of the measures described in Section 8, Biological Recommendations Summary.

Indirect Impacts

Migratory birds are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes 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." Additionally, nesting birds are protected under Section 3503 and 3513 of the California Fish and Game Code.

Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. The Project site supports breeding and foraging habitat for Cooper's hawk and other tree-nesting avifauna. In addition, the ornamental shrubs and sub-shrubs present along the access road leading to the work site may provide nesting habitat for resident and migratory songbirds. Therefore, indirect impacts to breeding avifauna due to construction-related noise may occur due to Project implementation. The measures described in Section 8 are designed to help mitigate these impacts.

7.4 Jurisdictional Resources

Direct Impacts

No jurisdictional wetlands or non-wetland waters occur within the study area; therefore, direct impacts to jurisdictional waters are not anticipated.

Indirect Impacts

No jurisdictional wetlands or non-wetland waters occur within the study area; therefore, indirect impacts to jurisdictional waters are not anticipated.

7.5 Wildlife Corridors and Habitat Linkages

Direct Impacts

The Proposed Project would not interfere or remove access to established native resident or migratory wildlife corridors, nor would the Proposed Project impede the use of native wildlife nursery sites. The Project site is currently fenced and would remain fenced following Proposed Project activities. Additionally, the narrow strip of ornamental vegetation bordering the Project site to the east (immediately west of SR-170) would not be affected by Proposed Project activities, and would still enable wildlife movement through the area. Thus, implementation of the Proposed Project would not result in changes to the existing environment that could interfere with the movement of wildlife species. Additionally, there are no water bodies within the study area that could provide suitable habitat for fish. Therefore, direct impacts to wildlife corridors and habitat linkages are not expected to occur within the study area.

Indirect Impacts

Proposed Project construction is scheduled to occur between 7:00 a.m. (8:00 a.m. if work occurs on Saturday) and 6:00 p.m. Thus, night lighting is not anticipated. However, indirect impacts due to short-term noise from construction could disrupt species use in the adjacent habitat during the day. Long-term indirect impacts from noise are not anticipated, as the noise from SR-170 is louder than the anticipated noise from operation of the facilities. Therefore, the local habitat linkage/wildlife corridor would be subject to the same edge effects described above for special-status wildlife. In addition, the measures described in Section 8 are designed to help mitigate impacts.

7.6 City of Los Angeles Protected Trees

Direct Impacts

No City of Los Angeles protected trees occur within the Project site; therefore, direct impacts to protected trees are not anticipated.

Indirect Impacts

Protected trees (i.e., California sycamore) as defined by the City of Los Angeles were identified within Whitsett Park, immediately west of the Project site. Indirect impacts to these trees are not anticipated, since Proposed Project activities in this area are anticipated to remain within the existing graded road. However, if Proposed Project activities are anticipated to occur within 15 feet from the trunk or 5 feet from the dripline of City of Los Angeles protected trees, potential indirect impacts could result from excessive vehicle and/or construction activity to aboveground tree branches or belowground root systems within the tree canopy (dripline). Additionally, generation of fugitive dust from construction activities, and erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other Project-related materials) released within the dripline of a City-protected tree may have indirect effects to protected trees occurring adjacent to the Project site. See the measures described in Section 8, which are designed to help mitigate impacts.

8 BIOLOGICAL RECOMMENDATIONS SUMMARY

The following measures are recommended to ensure that the Proposed Project is implemented in accordance with local, state, and federal guidelines and regulations:

1. If Project construction occurs during the migratory bird nesting season (typically February 15 through August 31), a focused avian nesting survey of the Project site and contiguous habitat within 300 feet of the site for protected native birds (within 500 feet for raptors) shall be performed by a qualified wildlife biologist 72 hours prior to construction in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703–712) and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the biology of the species (typically 300 feet for passerines and 500 feet for raptor and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing.
2. Prior to construction, any structures within the Project site shall be examined for bat roosts and sign (i.e., guano). If sign is observed, a bat detection survey may be required to determine species and additional avoidance and minimization measures.
3. City of Los Angeles protected trees include all oak trees indigenous to California (excluding the scrub oak *Quercus dumosa*), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) (City of Los Angeles 2006b). The proposed construction activities are anticipated to maintain a distance of 15 feet from the trunk and 5 feet from the dripline of protected trees. If construction activities are proposed to occur within 15 feet of the trunk or 5 feet of the dripline of protected trees, additional reporting and potential permits may be required per the City of Los Angeles Protected Tree Ordinance 177404.

9 LITERATURE CITED

ACOE (U.S. Army Corps of Engineers). 1987. *Wetland Delineation Manual.* https://www.fedcenter.gov/_kd/go.cfm?destination=ShowItem&Item_ID=6403.

ACOE. 2008a. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.* ERDC/CRREL TR-08-12. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

ACOE. 2008b. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. http://el.erdc.usace.army.mil/elpubs/pdf/trel08-28.pdf.

AOU (American Ornithologists' Union). 2016. "Check-list of North American Birds: List of the 2,116 Bird Species Known from the A.O.U. Check-List Area." Accessed May 2016. http://checklist.aou.org/.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California.* 2nd ed. Berkeley, California: University of California Press.

CDFW (California Department of Fish and Wildlife). 2016a. List of California Natural Diversity Database (CNDDB) species for nine quads (centered on San Fernando Quad). Quick Viewer. Accessed May 2016. http://dfg.ca.gov/biogeodata/cnddb/.

CDFW. 2016b. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2015. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

CDFW. 2016c. "State and Federally Listed Endangered, Threatened, and Rare Plants of California." California Natural Diversity Database. CDFW, Biogeographic Data Branch. January 2015. Accessed May 2016. https://nrm.dfg.**ca**.gov/FileHandler.ashx?DocumentID=109390.

CDFW. 2016d. "State and Federally Listed Endangered and Threatened Animals of California." May 2016. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405.

City of Los Angeles. 2006a. *L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles*. Section C. Biological Resources.

City of Los Angeles. 2006b. City of Los Angeles, Ordinance 177404, approved March 13, 2006. Effective April 23, 2006. Accessed May 2016. http://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf.

CNPS (California Native Plant Society). 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, California: California Native Plant Society. Accessed March 2016. www.rareplants.cnps.org.

County of Los Angeles. 2014. "Soil Types" [GIS Data for Los Angeles County]. Los Angeles County GIS Data Portal. http://egis3.lacounty.gov/dataportal/2011/01/27/soil-types/.

County of Orange. 2006. Southern Orange County Subregional NCCP/HCP. https://www.fws.gov/carlsbad/hcps/SoOrangeCoSubRegionHCP.html.

Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding,* edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular, no. 39. August 2012. Accessed May 2016. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.

Hall, E.R. 1981. *The Mammals of North America*. 2 Vol. New York, New York: John Wiley and Sons.

Hermanson, J.W. and T.J. O'Shea. 1983. "*Antrozous pallidus*." *Mammalian Species* 213:1–8.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game. October 1986.

Jepson Flora Project. 2016. Jepson eFlora. Berkeley, California: University of California. Accessed May 2016. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl.

Jones & Stokes. 1993. Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property. February 10, 1993 (JSA 92-032).

NABA (North American Butterfly Association). 2001. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed March 2014. http://www.naba.org/pubs/enames2.html.

Nelson, W., C.J. Zinn, A.T. Strahorn, E.B. Watson, and J.E. Dunn. 1919. Soil Survey of the Los Angeles Area, California. Washington: Government Printing Office. 1919. p. 59.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *The Manual of California Vegetation*. Sacramento, California: California Native Plant Society.

USDA (United States Department of Agriculture). 2016a. Official Soil Series Descriptions. Accessed May 2016. https://soilseries.sc.egov.usda.gov/OSD_Docs/T/TUJUNGA.html.

USDA. 2016b. "California." State PLANTS Checklist. Accessed May 2016. http://plants.usda.gov/dl_state.html.

USFWS (United States Fish and Wildlife Service). 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. http://www.fws.gov/migratorybirds/.

USFWS. 2016a. Critical Habitat and Occurrence Data. Available at http://www.fws.gov/data.

USFWS. 2016b. Environmental Conservation Online System Information, Planning and Conservation System (IPaC). Accessed April 2016. https://ecos.fws.gov/ipac/.

USGS (U.S. Geological Survey). 1973. USGS 7.5-minute topographic quadrangles reviewed for potential habitat and jurisdictional resources—7.5-minute Van Nuys quadrangle map, Township 1 North, Range 15 West, and Section 01.

Wilson, D.E., and D.M. Reeder (editors). 2005. Mammal Species of the World. A Taxonomic and Geographic Reference (3rd ed), Johns Hopkins University Press. http://www.press.jhu.edu.

WRD (Water Resources Division). 2004. Water Resources Division, Hydrology Section; Los Angeles County Department of Public Works.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife: Volume II. Birds.* Sacramento, California: California Department of Fish and Game.

APPENDIX A

Photo Documentation

APPENDIX A
Photo Documentation

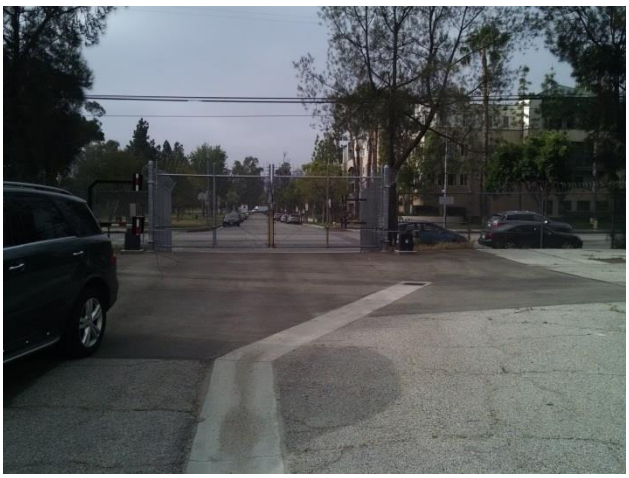


Photo 1. Facing south toward the project site entrance, north of Vanowen Street

Photo 2. Facing north toward the existing road, north of Vanowen Street

Photo 3. Facing north toward the existing road, north of Vanowen Street

Photo 4. Facing south toward the existing road, north of Vanowen Street

	
Photo 5. Facing west toward the treatment site	Photo 6. Facing southwest toward the treatment site
	
Photo 7. Facing north toward the treatment site	Photo 8. Facing south toward the treatment site

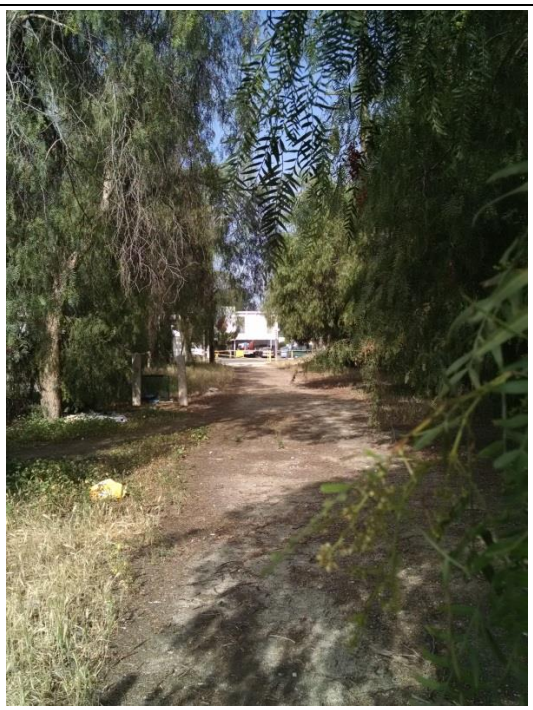


Photo 9. Facing west toward the existing road, east of Whitsett Avenue

Photo 10. Facing west toward the adjacent park (Whitsett Fields)

Photo 11. Facing north toward the adjacent park (Whitsett Fields)

Photo 12. Facing northeast toward the adjacent park (Whitsett Fields)

APPENDIX B

Plant Compendium

APPENDIX B
Plant Compendium

VASCULAR SPECIES

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—PINE FAMILY

* *Pinus* spp.—pines

MONOCOTS

POACEAE—GRASS FAMILY

* *Avena barbata*—slender oat
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis* ssp. *rubens*—red brome
* *Hordeum murinum*—mouse barley

EUDICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

* *Carpobrotus chilensis*—sea fig

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

* *Schinus molle*—Peruvian peppertree

ASTERACEAE—SUNFLOWER FAMILY

* *Sonchus oleraceus*—common sowthistle
Heterotheca grandiflora—telegraphweed

BRASSICACEAE—MUSTARD FAMILY

* *Sisymbrium irio*—London rocket
* *Brassica nigra*—black mustard

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Chenopodium album*—lambsquarters

FABACEAE—LEGUME FAMILY

Acmispon glaber var. *glaber*—common deerweed
* *Melilotus indicus*—annual yellow sweetclover

* *Parkinsonia aculeata*—Jerusalem thorn

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

* *Erodium botrys*—longbeak stork's bill

MALVACEAE—MALLOW FAMILY

* *Malva parviflora*—cheeseweed mallow

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

* *Eucalyptus citriodora*—lemonscented gum

ROSEACEAE—ROSE FAMILY

* *Prunus caroliniana*.—Carolina laurelcherry

SIMAROUBACEAE—QUASSIA OR SIMAROUBA FAMILY

* *Ailanthus altissima*—tree of heaven

SOLANACEAE—NIGHTSHADE FAMILY

Datura wrightii—sacred thorn-apple

* *Nicotiana glauca*—tree tobacco

* signifies introduced (non-native) species

APPENDIX C

Wildlife Compendium

APPENDIX C
Wildlife Compendium

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

Euphagus cyanocephalus—Brewer's blackbird

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

OLD WORLD SPARROWS

PASSERIDAE—OLD WORLD SPARROWS

* *Passer domesticus*—house sparrow

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

* *Columba livia*—rock pigeon (rock dove)

MAMMAL

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

* signifies introduced (non-native) species

APPENDIX D

Special-Status Plant Species Potential to Occur

APPENDIX D
Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Arenaria paludicola	marsh sandwort	FE / CE / 1B.1 / None	Marshes and swamps (freshwater or brackish); sandy, openings/perennial stoloniferous herb/May–Aug/10–558 feet	Not expected to occur. The project site is outside of the species' known elevation range, and suitable habitat (i.e., marshes and swamps) does not occur on site.
Astragalus brauntonii	Braunton's milk-vetch	FE / None / 1B.1 / LA	Chaparral, coastal scrub, valley and foothill grassland; recent burns or disturbed areas, usually sandstone with carbonate layers/perennial herb/Jan–Aug/13–2,100 feet	Low potential to occur. Project site was surveyed during the blooming period for this perennial herb and no individuals were observed on site. Suitable habitat in the form of disturbed area occurs on site.
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	FE / CE / 1B.1 / None	Coastal dunes, coastal scrub, marshes and swamps (edges, coastal salt, or brackish)/perennial herb/June–Oct/3–115 feet	Not expected to occur. The site is outside of the species' known elevation range, and no suitable coastal dunes, coastal scrub, marshes, or swamps occurs on site.
Astragalus tener var. *titi*	coastal dunes milk-vetch	FE / CE / 1B.1 / None	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic); often vernally mesic areas/annual herb/Mar–May/3–164 feet	Not expected to occur. The site is outside of the species' known elevation range and no suitable habitat (i.e., coastal bluff scrub, coastal dunes, or coastal prairie) present on site.
Atriplex coulteri	Coulter's saltbush	None / None / 1B.2 / None	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/10–1,509 feet	Low potential to occur. Survey conducted during species blooming period and was not recorded on site; however, suitable habitat in the form of valley grassland occurs on site, although in a heavily disturbed state.
Atriplex pacifica	South Coast saltscale	None / None / 1B.2 / None	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/Mar–Oct/0–459 feet	Not expected to occur. The site is outside of the species' known elevation range. Additionally, no suitable coastal bluff scrub, playas, or vernal pools occur on site.
Atriplex parishii	Parish's brittlescale	None / None / 1B.1 / None	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–Oct/82–6,234 feet	Not expected to occur. Suitable habitat, including vernal pools and playas, is not present on site.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None / None / 1B.2	Coastal bluff scrub, coastal scrub; alkaline/annual herb/Apr–Oct/33–656 feet	Not expected to occur. Site is disturbed, and no suitable coastal bluff scrub or coastal scrub habitat present on site.
Berberis nevinii	Nevin's barberry	FE / CE / 1B.1 / LA	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/Mar–June/230–2,707 feet	Not expected to occur. Site is heavily disturbed. No suitable habitat (i.e., chaparral bluff scrub, coastal scrub) is present on site.
California macrophylla	round-leaved filaree	None / None / 1B.2	Cismontane woodland, valley and foothill grassland; clay/annual herb/Mar–May/49–3,937 feet	Low potential to occur. Survey conducted during species blooming period and was not recorded on site; however, suitable habitat in the form of valley grassland occurs on site, although in a heavily disturbed state.
Calochortus catalinae	Catalina mariposa lily	None / None /4.2 / LA	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/(Feb) Mar–June/49–2,297 feet	Not expected to occur. Suitable habitat in the form of disturbed nonnative grassland occurs on site, although in a heavily disturbed state. This species was not detected during the field survey conducted in April 2016, during the blooming period for this species.
Calochortus clavatus var. *gracilis*	slender mariposa lily	None / None / 1B.2 / LA	Chaparral, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/Mar–June/1,050–3,281 feet	Not expected to occur. The site is outside of the species' known elevation range. Additionally, survey conducted during species blooming period, and it was not recorded on site.
Calochortus plummerae	Plummer's mariposa lily	None / None / 4.2 / LA	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland; granitic, rocky/perennial bulbiferous herb/May–July/328–5,577 feet	Low potential to occur. Suitable habitat in the form of disturbed nonnative grassland occurs on site, although in a heavily disturbed state.
Calystegia felix	lucky morning-glory	None / None / 3.1 / none	Meadows and seeps (sometimes alkaline), riparian scrub (alluvial); historically associated with wetland and marshy places, but possibly in drier situations as well; possibly silty loam and alkaline/annual rhizomatous herb/Mar–Sep/98–705 feet	Not expected to occur. Suitable habitat, particularly wetland and marshy areas, does not occur on site.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Camissoniopsis lewisii	Lewis' evening-primrose	None / None / 3 / LA	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar–May (June)/0–984 feet	Low potential to occur. Survey conducted during species blooming period, and it was not recorded on site; however, suitable habitat in the form of disturbed non-native grassland occurs on site, although in a heavily disturbed state.
Centromadia parryi ssp. *australis*	southern tarplant	None / None / 1B.1 / LA	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1,575 feet	Not expected to occur. Suitable habitat, especially in the form of vernal pools and marshy areas, does not occur on site.
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	FE / CE / 1B.2 / None	Coastal dunes, marshes, and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct/0–98 feet	Not expected to occur. The site is outside of the species' known elevation range, and no suitable coastal dunes, marshes, or swamps occur on site.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC / CE / 1B.1 / None	Coastal scrub (sandy), valley and foothill grassland/annual herb/Apr–July/492–4,003 feet	Low potential to occur. Survey conducted during species blooming period and was not recorded on site; however, minimal marginal suitable habitat in the form of disturbed non-native grassland occurs on site.
Deinandra minthornii	Santa Susana tarplant	None / CR / 1B.2 / None	Chaparral, coastal scrub; rocky/perennial deciduous shrub/July–Nov/919–2,493 feet	Not expected to occur. The site is outside of the species' known elevation range.
Dithyrea maritima	beach spectaclepod	None / CT / 1B.1 / None	Coastal dunes, coastal scrub (sandy)/perennial rhizomatous herb/Mar–May/10–164 feet	Not expected to occur. The site is outside of the species' known elevation range.
Dodecahema leptoceras	slender-horned spineflower	FE / CE / 1B.1 / None	Chaparral, cismontane woodland, coastal scrub (alluvial fan); sandy/annual herb/Apr–June/656–2,493 feet	Not expected to occur. Suitable habitat in the form of alluvial fan coastal scrub does not occur on site.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None / None / 1B.1 / LA	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1,476 feet	Low potential to occur. Survey conducted during species blooming period, and it was not recorded on site; however, suitable habitat in the form of valley grassland occurs on site, although in a heavily disturbed state.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Dudleya cymosa ssp. *ovatifolia*	Santa Monica dudleya	FT / None / 1B.1 / LA	Chaparral, coastal scrub; volcanic or sedimentary, rocky/perennial herb/Mar–June/492–5,495 feet	Low potential to occur. Survey conducted during species blooming period, and it was not recorded on site; however, suitable habitat in the form of disturbed non-native grassland herb occurs on site, although in a heavily disturbed state.
Dudleya multicaulis	many-stemmed dudleya	None / None / 1B.2 / LA	Chaparral, coastal scrub, valley and foothill grassland; often clay/perennial herb/Apr–July/49–2,592 feet	Low potential to occur. Survey conducted during species blooming period, and it was not recorded on site; however, suitable habitat in the form of disturbed non-native grassland occurs on site, although in a heavily disturbed state.
Fremontodendron mexicanum	Mexican flannelbush	FE / CR / 1B.1 / LA	Closed-cone coniferous forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentinite/perennial evergreen shrub/Mar–June/33–2,349 feet	Not expected to occur. Suitable habitat (i.e., closed-cone coniferous forest, chaparral, or cismontane woodland) does not occur on site.
Galium cliftonsmithii	Santa Barbara bedstraw	None / None / 4.3 / LA	Cismontane woodland/perennial herb/May–July/656–4,003 feet	Not expected to occur. Suitable cismontane woodland habitat does not occur on site.
Harpagonella palmeri	Palmer's grapplinghook	None / None / 4.2 / None	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–May/66–3,133 feet	Low potential to occur. Survey conducted during species blooming period, and it was not recorded on site; however, suitable habitat in the form of disturbed non-native grassland occurs on site, although in a heavily disturbed state.
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None / None / 1A / None	Marshes and swamps (coastal salt and freshwater)/perennial rhizomatous herb/Aug–Oct/33–5,495 feet	Not expected to occur. Suitable habitat in the form of marshes and swamps does not occur on site.
Hordeum intercedens	vernal barley	None / None / 3.2 / None	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/Mar–June/16–3,281 feet	Not expected to occur. Suitable habitat, particularly saline flats and depressions within grassland, does not occur on site.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Horkelia cuneata var. *puberula*	mesa horkelia	None / None / 1B.1 / None	Chaparral (maritime), cismontane woodland, coastal scrub; sandy or gravelly/perennial herb/Feb–July (Sep)/230–2,657 feet	Not expected to occur. Site is heavily disturbed and does not support suitable habitat for this species.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None / None / 1B.1 / None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4,003 feet	Low potential to occur. Suitable habitat in the form of vernal pools and playas does not exist on site; however, suitable habitat in the form of annual herb exists on site, although in a heavily disturbed state.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None / None / 4.3 / None	Chaparral, coastal scrub/annual herb/Jan–July/3–2,904 feet	Low potential to occur. Suitable habitat in the form of annual herb exists on site, although in a heavily disturbed state.
Lilium humboldtii ocellatum	ocellated Humboldt lily	None / None / 4.2 / LA	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; openings/perennial bulbiferous herb/Mar–July (Aug)/98–5,906 feet	Not expected to occur. Suitable habitat (i.e., chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland) does not occur on site. Additionally, this species was not detected during the field survey conducted in April 2016, during the blooming period for this species.
Linanthus concinnus	San Gabriel linanthus	None / None / 1B.2 / None	Chaparral, lower montane coniferous forest, upper montane coniferous forest; rocky, openings/annual herb/Apr–July/4,987–9,186 feet	Not expected to occur. The site is outside of the species' known elevation range, and no suitable habitat (i.e., chaparral, lower montane coniferous forest, upper montane coniferous forest) occurs on site.
Malacothamnus davidsonii	Davidson's bush-mallow	None / None / 1B.2 / LA	Chaparral, cismontane woodland, coastal scrub, riparian woodland/perennial deciduous shrub/June–Jan/607–2,805 feet	Not expected to occur. Suitable habitat, particularly riparian woodland, is not on site.
Monardella hypoleuca ssp. *hypoleuca*	white-veined monardella	None / None / 1B.3 / None	Chaparral, cismontane woodland/perennial herb/(Apr) May–Aug (Sep) (Oct) (Nov) (Dec)/164–5,003 feet	Low potential to occur. No suitable habitat in the form of chaparral occurs on site. The minimal Pinus sp. on site is ornamental and planted species within the project site.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Nama stenocarpa	mud nama	None / None / 2B.2 / LA	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/Jan–July/16–1,640 feet	Not expected to occur. Suitable habitat, particularly marshes and swamps, is not present on site.
Nasturtium gambelii	Gambel's water cress	FE / CT / 1B.1 / None	Marshes and swamps (freshwater or brackish)/perennial rhizomatous herb/Apr–Oct/16–1,083 feet	Not expected to occur. Suitable habitat, particularly marshes and swamps, is not on site.
Navarretia prostrata	prostrate vernal pool navarretia	None / None / 1B.1 / None	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/Apr–July/10–3,970 feet	Not expected to occur. Suitable habitat, particularly vernal pools, is not on site.
Orcuttia californica	California Orcutt grass	FE / CE / 1B.1 / None	Vernal pools/annual herb/Apr–Aug/49–2,165 feet	Not expected to occur. Suitable habitat, particularly vernal pools, is not on site.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None / None / 2B.2 / None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/(July) Aug–Nov (Dec)/0–6,890 feet	Low potential to occur. Suitable habitat in the form of chaparral, cismontane woodland, coastal scrub, or riparian woodland does not occur on site. Pinus sp. within the project site were planted and are not native.
Quercus dumosa	Nuttall's scrub oak	None / None / 1B.1 / None	Closed-cone coniferous forest, chaparral, coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr (Aug)/49–1,312 feet	Not expected to occur. Suitable habitat, particularly coniferous forest, is not on site.
Ribes divaricatum var. *parishii*	Parish's gooseberry	None / None /1A / LA	Riparian woodland/perennial deciduous shrub/Feb–Apr/213–984 feet	Not expected to occur. Suitable habitat, particularly riparian woodland, is not on site. This species was not observed during the field survey conducted in April 2016, during the blooming period for this species.
Sidalcea neomexicana	salt spring checkerbloom	None / None / 2B.2 / None	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas; alkaline, mesic/perennial herb/Mar–June/49–5,020 feet	Not expected to occur. Suitable habitat (i.e., chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas) is not present on site.

Scientific Name	Common Name	Status (Federal / State / California Rare Plant Rank / Los Angeles City Sensitive)	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range	Potential to Occur
Symphyotrichum defoliatum	San Bernardino aster	None / None / 1B.2 / None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov/7–6,693 feet	Not expected to occur. Suitable habitat, including vernal pools and marshy areas, is not on site.
Symphyotrichum greatae	Greata's aster	None / None / 1B.3 / None	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland; mesic/perennial rhizomatous herb/June–Oct/984–6,594 feet	Not expected to occur. The site is outside of the species' known elevation range, and no suitable habitat is present on site.
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern	None / None / 2B.2 / None	Meadows and seeps (seeps and streams)/perennial rhizomatous herb/Jan–Sep/164–2,001 feet	Not expected to occur. Suitable habitat, including meadows and seeps, is not present on site.

Federal Designations
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal candidate for listing
State Designations
CE: State listed as endangered
CT: State listed as threatened
CR: State Rare
California Rare Plant Rank (CRPR)
CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
CRPR 3: Plants About Which More Information is Needed – A Review List
CRPR 4: Plants of Limited Distribution - A Watch List
.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 Moderately threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
Local Designation
LA: Species locally designated or recognized by the City of Los Angeles

APPENDIX E

Special-Status Wildlife Species Potential to Occur

APPENDIX E
Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
			Amphibians	
Anaxyrus californicus	arroyo toad	FE / SSC / LA	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral, and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering.	Not expected to occur. The project site is heavily disturbed and lacks water source or riparian areas required by this species. Additionally, no suitable water sources or riparian resources occur within the study area.
Rana draytonii	California red-legged frog	FT / SSC / LA	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby, or emergent vegetation associated with deep, still, or slow-moving water; uses adjacent uplands.	Not expected to occur. The project site is heavily disturbed and lacks water source or riparian areas required by this species. Additionally, no suitable water sources or riparian resources occur within the study area.
Rana muscosa	southern mountain yellow-legged frog	FE / SE, SSC / LA	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral.	Not expected to occur. The project site is heavily disturbed and lacks water source or canyon areas. Additionally, no suitable water source or canyon areas occur within the study area.
Spea hammondii	western spadefoot	None / SSC / LA	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Not expected to occur. The project site is heavily disturbed and lacks vernal pools or ephemeral water sources required by this species. Additionally, no suitable vernal pools or ephemeral water sources occur within the study area.
			Reptiles	
Actinemys marmorata	western pond turtle	None / SSC / LA	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	Not expected to occur. The project site is outside of the species' known geographic range, and suitable habitat in the form of intermittent streams is not supported by the project site or adjacent areas.
Anniella pulchra pulchra	silvery legless lizard	None / SSC / LA	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils.	Not expected to occur. Suitable habitat in the form of sandy dunes or washes is not supported by the project site or adjacent areas.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None / None / None	Open areas in semiarid grasslands, scrublands, and woodlands.	Low potential to occur. Suitable habitat in the form of grassland is supported by the project site; however, it is heavily disturbed. A contiguous soccer field to the site provides open areas where this species could be found, although high human occupancy makes this unlikely.
Diadophis punctatus modestus	San Bernardino ring-necked snake	None / None / None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland.	Not expected to occur. Suitable vegetation in the form of non-native annual grassland is supported by the project site and adjacent areas; however, the grassland habitat is heavily disturbed and there is little contiguous habitat surrounding the park.
Lampropeltis zonata (pulchra)	California mountain kingsnake (San Diego population)	None / SSC / LA	Diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Wooded areas near a stream with rock outcrops, talus or rotting logs that are exposed to the sun.	Not expected to occur. The project site is heavily disturbed and lacks suitable habitat (i.e., wooded areas near streams). Additionally, no suitable habitat occurs within the study area.
Phrynosoma blainvillii	Blainville's horned lizard	None / SSC / LA	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	Low potential to occur. The project site is heavily disturbed with compacted soils. Minimal non-native annual grasslands occur within the project site among the disturbed areas; however, this area is too disturbed to provide suitable habitat for this species. The adjacent parks in the study area are well maintained and heavily used; thus, less suitable for this species. There is a documented occurrence of this species approximately 4 miles from the site (CDFW 2016a).
Salvadora hexalepis virgultea	coast patch-nosed snake	None / SSC / LA	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	Not expected to occur. Suitable habitat (i.e., semi-arid brushy areas, chaparral, canyons, hillsides, and plains) is not supported by the project site or adjacent areas.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Thamnophis hammondii	two-striped gartersnake	None / SSC / LA	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Not expected to occur. The project site is heavily disturbed and lacks streams or vernal pools required by this species. Additionally, no suitable streams or vernal pools occur within the study area.
Xantusia riversiana	island night lizard	DL / None / LA	Wide variety of habitats including coastal strand and sand dunes, chaparral, and woodland.	Not expected to occur. Suitable habitat in the form of sandy dunes, chaparral, and woodland is not supported by the project site or adjacent areas.
Birds				
Accipiter cooperii	Cooper's hawk (nesting)	None / WL / LA	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water.	Moderate potential to occur. Although the project site is heavily disturbed and lacks native habitats, this species is occasionally observed within urbanized areas. The ornamental trees could provide suitable nesting habitat.
Accipiter striatus	sharp-shinned hawk (nesting)	None / WL / LA	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats.	Not expected to occur. The project site is heavily disturbed and lacks native habitats.
Agelaius tricolor	tricolored blackbird (nesting colony)	BCC / SSC / None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	Not expected to occur. There is no freshwater source to provide suitable nesting habitat for this species. The project site contains disturbed habitat and ornamental trees, and is entirely surrounded by urban development.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None / WL / LA	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches.	Not expected to occur. The project site is heavily disturbed, lacks coastal scrub or chaparral for nesting, and is surrounded by urban development.
Artemisiospiza belli belli	Bell's sage sparrow	BCC / WL / LA	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter.	Not expected to occur. The project site is heavily disturbed and lacks native habitats.
Asio otus	Long-eared owl (nesting)	None / SSC / LA	Dense coniferous or broadleaved woodlands with adjacent open areas.	Not expected to occur. The project site is heavily disturbed and lacks native habitats.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Athene cunicularia	burrowing owl (burrow sites and some wintering sites)	BCC / SSC / LA	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Low potential to occur. Minimal suitable habitat in the form of disturbed and compacted grassland is found on the project site; however, absence of suitable burrows makes this species unlikely to occur. Additionally, this species would have been observed if present. Burrowing owl may potentially use the open pipes within the northeastern corner of the site. Ground squirrels were observed within the study area during the survey conducted in April 2016.
Buteo swainsoni	Swainson's hawk (nesting)	BCC / ST / None	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	No breeding potential and low foraging potential. Marginal suitable foraging habitat exists in the disturbed grasslands within the adjacent park, and the ornamental trees provide potential perching habitat; however, this area is heavily used by people and is well maintained. The park on the east side of SR-170 provides open area that could provide suitable nesting habitat, but this area is also widely used by residents in the community and is well maintained, and the surrounding areas are densely populated, thus it is unlikely to provide suitable nesting habitat. There is a low potential for this species to occasionally forage in the area during migration.
Charadrius montanus	mountain plover (wintering)	BCC / SSC / LA	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts.	Not expected to occur. The project site is heavily disturbed and lacks native habitat.
Circus cyaneus	northern harrier (nesting)	None / SSC / LA	Nests in open wetlands including marshy meadows, wet lightly grazed pastures, old fields, and freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	Not expected to occur. The project site is heavily disturbed, lacks marshy habitats, and is surrounded by urban development.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Coccyzus americanus occidentalis	western yellow-billed cuckoo (nesting)	FT, BCC / SE / LA	Nests in dense, wide riparian woodlands and forest with well-developed understories.	Not expected to occur. No riparian habitat, and, thus, no suitable habitat to support this species exists within the project site or study area.
Cypseloides niger	black swift (nesting)	BCC / SSC / LA	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats.	No breeding potential and low foraging potential. Limited suitable foraging habitat exists in the disturbed grasslands within the adjacent park and ornamental trees; however, this area is heavily used by the surrounding urban area and is well maintained.
Elanus leucurus	white-tailed kite (nesting)	None / FP / LA	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	Low potential to occur. Species can occur in disturbed areas, however, the site lacks nesting habitat.
Empidonax traillii extimus	southwestern willow flycatcher (nesting)	FE / SE / LA	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration.	Not expected to occur. No riparian habitat; thus, suitable habitat to support this species does not exist within the project site or study area.
Eremophila alpestris actia	California horned lark	None / WL / LA	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada.	Low potential to occur. The project site is heavily disturbed and surrounded by urban development.
Falco columbarius	merlin (wintering)	None / WL / LA	Coniferous forests. During migration and winter, they are found in more diverse habitats, including coastal areas, estuaries, agricultural lands, and suburban towns.	Not expected to occur. The project site is heavily disturbed, lacks native habitats, and is surrounded by development.
Falco mexicanus	prairie falcon (nesting)	BCC / WL / LA	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	Not expected to occur. The project site is heavily disturbed, lacks cliffs or bluffs for nesting, and is surrounded by urban development.
Falco peregrinus anatum	American peregrine falcon	DL / DL, FP / LA	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present.	Low breeding potential and foraging potential. No suitable foraging habitat exists in the disturbed grasslands within the adjacent park, and the ornamental trees provide potential perching habitat; however, this area is heavily used by the surrounding urban area and is well maintained.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Icteria virens	yellow-breasted chat (nesting)	None / SSC / LA	Dense shrubbery, including abandoned farm fields, clearcuts, powerline corridors, fencerows, forest edges and openings, swamps, and edges of streams and ponds.	Not expected to occur. No riparian habitat; thus, suitable habitat to support this species does not exist within the project site or study area.
Ixobrychus exilis	least bittern (nesting)	BCC / SSC / LA	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation.	Not expected to occur. The project site is heavily disturbed, lacks marshes, and is surrounded by urban development.
Lanius ludovicianus	loggerhead shrike (nesting)	BCC / SSC / LA	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	Not expected to occur. The project site is heavily disturbed and lacks native habitats.
Pandion haliaetus	osprey (nesting)	None / WL / LA	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast.	Not expected to occur. The project site is heavily disturbed and lacks suitable water sources. Additionally, no suitable water source occurs within the study area.
Phalacrocorax auritus	double-crested cormorant (nesting colony)	None / WL / LA	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	Not expected to occur. The project site is heavily disturbed and lacks suitable riparian habitats and water source. Additionally, no suitable water source or riparian areas occur within the study area.
Polioptila californica californica	coastal California gnatcatcher	FT / SSC / None	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.	Not expected to occur. Suitable habitat in the form of sagebrush or buckwheat communities does not exist within the project site, as it is heavily disturbed. Additionally, no suitable sagebrush or buckwheat communities occur within the study area. There is a historic occurrence of this species approximately 2 miles from the site (CDFW 2016a).
Riparia riparia	bank swallow (nesting)	None / ST / LA	Nests in riparian, lacustrian, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration.	Not expected to occur. Suitable habitat in the form of riparian areas or steep cliffs does not exist on the project site or within the study area.
Setophaga petechia	yellow warbler (nesting)	BCC / SSC / LA	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Not expected to occur. No riparian habitat; thus, suitable habitat to support this species does not exist within the project site or study area.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Vireo bellii pusillus	least Bell's vireo (nesting)	FE / SE / LA	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.	Not expected to occur. No riparian habitat; thus, suitable habitat to support this species does not exist within the project site or study area.
Mammals				
Antrozous pallidus	pallid bat	None / SSC / LA	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in trees and artificial structures.	Moderate breeding and foraging potential. Disturbed, open areas occur within the project site, and though limited, may provide occasional foraging habitat for this species. Although the adjacent parks in the study area are well maintained and heavily used, they are open and may also provide occasional foraging potential for this species if present. Ornamental trees and buildings on site have a moderate potential to provide adequate breeding habitat, although no roosts were observed at the time of survey.
Corynorhinus townsendii	Townsend's big-eared bat	None / SC, SSC / LA	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, artificial structures, and tunnels.	No foraging and low nesting potential to occur. Habitat in the form of building and structures on site provide suitable habitat for this species, but with no suitable foraging habitat, it is unlikely to find this species on the project site or surrounding area.
Eumops perotis californicus	western mastiff bat	None / SSC / LA	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Not expected to occur. The project site is heavily disturbed; lacks native habitats, cliffs, and canyon areas for foraging and roosting; and is surrounded by urban development.
Lasiurus cinereus	hoary bat	None / None / None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes.	Not expected to occur. No suitable habitats (i.e., forest, woodland riparian, wetland, or juniper scrub habitats) to support this species are found on the project site or within the adjacent areas; however, there is a historic occurrence approximately 3 miles from the site in Van Nuys (CDFW 2016a).

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Lasionycteris noctivagans	silver-haired bat	None / None / None	Old-growth forest, maternity roosts in trees (primarily woodpecker hollows), large-diameter snags 50 feet aboveground; hibernates in hollow trees, under sloughing bark, in rock crevices, and occasionally in buildings, mines, and caves; forages in or near coniferous or mixed deciduous forest, often following stream or river drainages.	Not expected to occur. No suitable vegetation found on site; however, there is a historic occurrence approximately 3 miles from the site (CDFW 2016a).
Lasiurus xanthinus	western yellow bat	None / SSC / None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Not expected to occur. Suitable habitat in the form of riparian and desert wash vegetation does not occur on the project site or within the study area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None / SSC / LA	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Low potential to occur. Minimal suitable vegetation present on site; however, surrounding development makes this species unlikely to occur.
Macrotus californicus	Californian leaf-nosed bat	None / SSC / None	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, and occasionally buildings.	Not expected to occur. While there are buildings and structures on the site that this species could use as roosting habitat, the absence of suitable foraging habitat makes it unlikely to find this species on the project site or within the project area.
Microtus californicus stephensi	south coast marsh vole	None / SSC / None	Tidal marshes.	Not expected to occur. The site is outside of the species' known geographic range, and no suitable tidal marsh habitat is present on the project site or within the study area.
Neotoma lepida intermedia	San Diego desert woodrat	None / SSC / None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	Not expected to occur. No suitable vegetation (i.e., coastal scrub, desert scrub, chaparral, and cacti) or rocky areas, and no suitable burrows found on the project site to support this species. Additionally, no suitable habitat for this species occurs within the study area. No woodrat middens observed during the field visit.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Nyctinomops macrotis	big free-tailed bat	None / SSC / None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water.	Low potential to occur. Suitable foraging habitat in the form of a water source does not exist on the project site or within the study area. The buildings on site and ornamental trees may provide breeding habitat, although no roosts were observed during the time of survey.
Onychomys torridus ramona	southern grasshopper mouse	None / SSC / LA	Grassland and sparse coastal scrub.	Low potential to occur. The project site is heavily disturbed with compacted soils. Minimal non-native annual grasslands occur within the project site among the disturbed areas, and the grassland vegetation in this area is too disturbed to provide suitable habitat. Suitable burrows to support this species were not observed during the site visit. Additionally, the adjacent parks in the study area are well maintained and heavily used. There is little contiguous habitat surrounding the park, thus making it less suitable for this species.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None / SSC / LA	Lower-elevation grassland, alluvial sage scrub, and coastal scrub.	Low potential to occur. The project site is heavily disturbed and lacks native habitat, but there are some grasses and forbs within the disturbed areas. Although there is a historic occurrence approximately 1 mile from the site (CDFW 2016a), the soils on site are too compacted to provide suitable habitat to support this species. No suitable burrows were observed during the site visit conducted in April 2016.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Taxidea taxus	American badger	None / SSC / None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	Low potential to occur. Although suitable open treeless vegetation in the form of non-native annual grassland is supported by the project site and adjacent areas, the grassland habitat is heavily disturbed and there is little contiguous habitat surrounding the park. Additionally, an absence of suitable burrows makes this species unlikely to occur within the study area.
Invertebrates				
Aglaothorax longipennis	Santa Monica shieldback katydid	None / None / None	Occurs nocturnally in chaparral and canyon stream-bottom vegetation in the Santa Monica Mountains of Southern California.	Not expected to occur. The site is outside of the species' known geographic range. Additionally, no suitable chaparral and canyon stream-bottom vegetation occurs on the project site or within the study area.
Carolella busckana	Busck's gallmoth	None / None / None	Coastal scrub dunes.	Not expected to occur. The project site is outside of the species' known geographic range and no suitable coastal scrub dunes habitat is present on the project site or within the study area.
Cicindela hirticollis gravida	sandy beach tiger beetle	None / None / None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico.	Not expected to occur. Suitable habitat in the form of areas beside water sources do not occur on the project site or within the study area.
Coelus globosus	globose dune beetle	None / None / None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico.	Not expected to occur. No suitable coastal sand dune habitat present on site.
Danaus plexippus	monarch	None / None / None	Wind-protected tree groves with nectar sources and nearby water sources.	Low potential to occur. Ornamental trees on site provide suitable habitat for this species, but an absence of nearby water sources makes this species' potential to occur on the project site or within the study area less likely.
Socalchemmis gertschi	Gertsch's socalchemmis spider	None / None / None	Known from only two localities in Los Angeles County: Brentwood (type locality) and Topanga Canyon.	Not expected to occur. The project site is outside of the species' known geographic range.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Fish				
Catostomus santaanae	Santa Ana sucker	FT / SSC / None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder.	Not expected to occur. The project site is outside of the species' known geographic range. Additionally, suitable habitat in the form of a water source does not exist on the project site or within the study area.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE / SE, FP / LA	Slow-moving and backwater areas.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Gila orcuttii	arroyo chub	None / SSC / LA	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Oncorhynchus mykiss irideus	steelhead – central California coast distinct population segment (DPS)	FT / None / None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Oncorhynchus mykiss irideus	steelhead – Central Valley DPS	FT / None / None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Oncorhynchus mykiss irideus	steelhead – northern California DPS	FT / SSC / None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Oncorhynchus mykiss irideus	steelhead – south/central California coast DPS	FT / SSC / None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Oncorhynchus mykiss irideus	southern steelhead – southern California DPS	FE / SSC / LA	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.

Scientific Name	Common Name	Status (Federal / State / City of Los Angeles Sensitive)	Primary Habitat Associations	Status On Site Or Potential to Occur
Oncorhynchus mykiss irideus	summer-run steelhead trout	None / SSC / None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	Not expected to occur. Suitable habitat in the form of a water source does not exist on the project site or within the study area.
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None / SSC / None	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system.	Not expected to occur. The site is outside of the species' known geographic range. Additionally, suitable habitat in the form of a water source does not exist on the project site or within the study area.

Federal Designations
FE: Federally Endangered
FT: Federally Threatened
DL: Federally Delisted
BCC: U. S. Fish & Wildlife Service Birds of Conservation Concern
State Designations
SC: State Candidate (Threatened)
FP: California Fully Protected species
SE: State Endangered
ST: State Threatened
SSC: California Species of Special Concern; considered by CDFW as vulnerable to extinction in California due to declining populations or habitat
WL: State Watch List
Local Designation
LA: Species locally designated or recognized by the City of Los Angeles

APPENDIX F

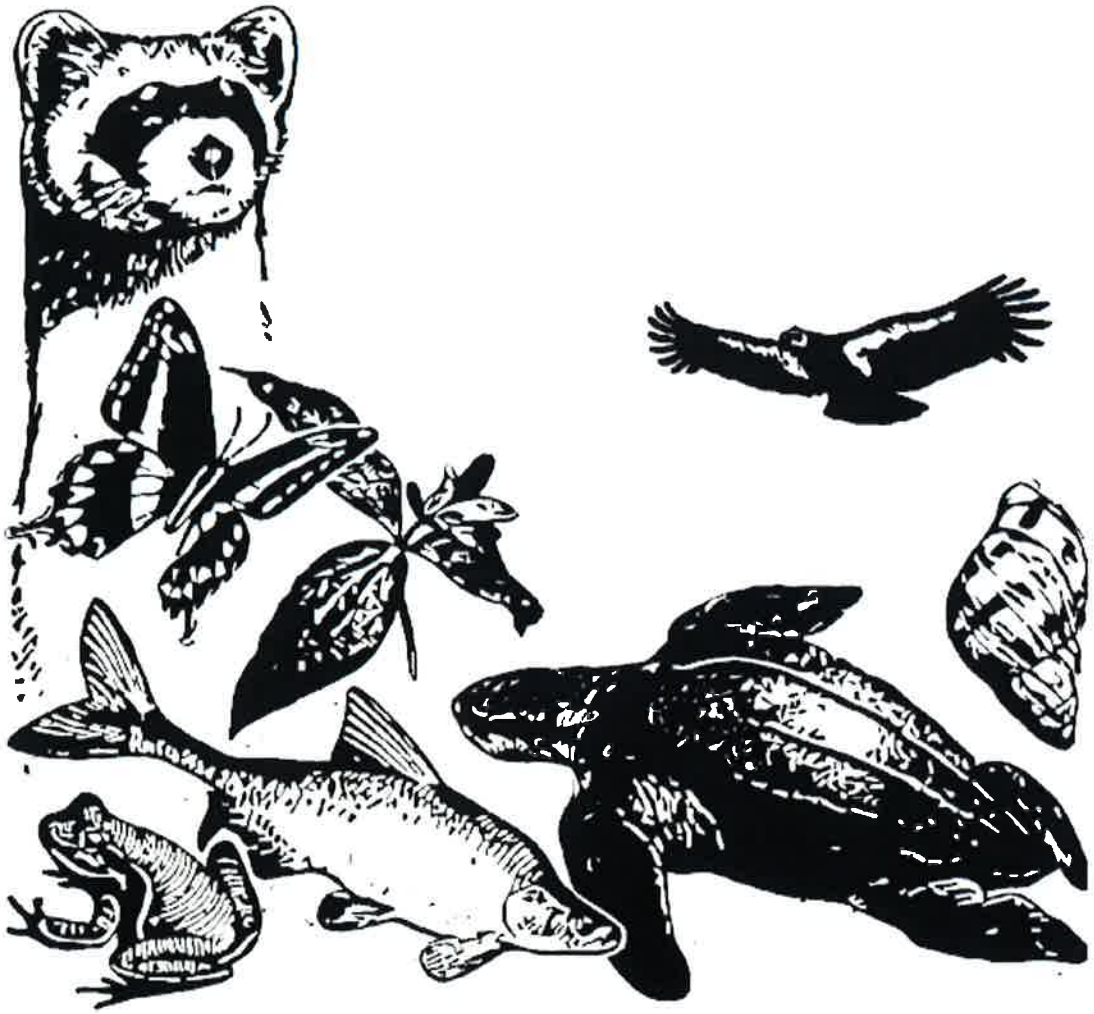
USFWS IPaC Trust Resource Report
CNDDB Results (Rarefind 5.0)
CNPS Search Results

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

Generated April 11, 2016 08:50 PM MDT, IPaC v3.0.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

LOCATION

Los Angeles County, California

IPAC LINK

https://ecos.fws.gov/ipac/project/PMKGL-WN47V-EUBBB-JF7EE-NSHFXI

U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

California Condor Gymnogyps californianus — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B002

Coastal California Gnatcatcher Polioptila californica californica — Threatened

CRITICAL HABITAT
There is **final** critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B08X

Least Bell's Vireo Vireo bellii pusillus — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B067

Flowering Plants

Gambel's Watercress Rorippa gambellii — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q38L

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

---

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

Allen's Hummingbird Selasphorus sasin — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0LI

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Bell's Vireo Vireo bellii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JX

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HA

Burrowing Owl Athene cunicularia — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0NC

Cactus Wren Campylorhynchus brunneicapillus — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FZ

Costa's Hummingbird Calypte costae — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JE

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Wintering

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Least Bittern Ixobrychus exilis
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Lesser Yellowlegs Tringa flavipes — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MD

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S

Marbled Godwit Limosa fedoa — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JL

Nuttall's Woodpecker Picoides nuttallii — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HT

Oak Titmouse Baeolophus inornatus — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MJ

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Red-crowned Parrot Amazona viridigenalis — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0GO

Rufous-crowned Sparrow Aimophila ruficeps — Bird of conservation concern
Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MX

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Western Grebe aechmophorus occidentalis — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

Yellow Warbler dendroica petechia ssp. brewsteri — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EN

Red Knot Calidris canutus ssp. roselaari — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G6

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Beverly Hills (3411814) OR Burbank (3411823) OR Canoga Park (3411825) OR Hollywood (3411813) OR Oat Mountain (3411835) OR San Fernando (3411834) OR Sunland (3411833) OR Topanga (3411815) OR Van Nuys (3411824))

CNDDB Results for the North Hollywood West Well Field Remedial Response Action

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
arroyo chub *Gila orcuttii*	AFCJB13120	None	None	G2	S2	SSC
arroyo toad *Anaxyrus californicus*	AAABB01230	Endangered	None	G2G3	S2S3	SSC
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
beach spectaclepod *Dithyrea maritima*	PDBRA10020	None	Threatened	G1	S1	1B.1
big free-tailed bat *Nyctinomops macrotis*	AMACD04020	None	None	G5	S3	SSC
Blochman's dudleya *Dudleya blochmaniae ssp. blochmaniae*	PDCRA04051	None	None	G3T2	S2	1B.1
Braunton's milk-vetch *Astragalus brauntonii*	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
Busck's gallmoth *Carolella busckana*	IILEM2X090	None	None	G1G3	SH	
California leaf-nosed bat *Macrotus californicus*	AMACB01010	None	None	G4	S3	SSC
California Orcutt grass *Orcuttia californica*	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
California Walnut Woodland *California Walnut Woodland*	CTT71210CA	None	None	G2	S2.1	
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
coastal dunes milk-vetch *Astragalus tener var. titi*	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
coastal whiptail *Aspidoscelis tigris stejnegeri*	ARACJ02143	None	None	G5T5	S3	
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coulter's saltbush *Atriplex coulteri*	PDCHE040E0	None	None	G3	S1S2	1B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	None	G3G4	S1S2	
Davidson's bush-mallow *Malacothamnus davidsonii*	PDMAL0Q040	None	None	G2	S2	1B.2
Davidson's saltscale *Atriplex serenana var. davidsonii*	PDCHE041T1	None	None	G5T1	S1	1B.2
Gambel's water cress *Nasturtium gambelii*	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
Gertsch's socalchemmis spider *Socalchemmis gertschi*	ILARAU7010	None	None	G1	S1	
globose dune beetle *Coelus globosus*	IICOL4A010	None	None	G1G2	S1S2	
Greata's aster *Symphyotrichum greatae*	PDASTE80U0	None	None	G2	S2	1B.3
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	AMAFD01041	None	None	G5T1T2	S1S2	SSC
Los Angeles sunflower *Helianthus nuttallii ssp. parishii*	PDAST4N102	None	None	G5TH	SH	1A
lucky morning-glory *Calystegia felix*	PDCON040P0	None	None	GHQ	SH	3.1
many-stemmed dudleya *Dudleya multicaulis*	PDCRA040H0	None	None	G2	S2	1B.2
marsh sandwort *Arenaria paludicola*	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
mesa horkelia *Horkelia cuneata var. puberula*	PDROS0W045	None	None	G4T1	S1	1B.1
monarch - California overwintering population *Danaus plexippus pop. 1*	IILEPP2012	None	None	G4T2T3	S2S3	
mud nama *Nama stenocarpa*	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Nevin's barberry *Berberis nevinii*	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
Nuttall's scrub oak *Quercus dumosa*	PDFAG050D0	None	None	G3	S3	1B.1
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Palmer's grapplinghook *Harpagonella palmeri*	PDBOR0H010	None	None	G4	S3	4.2
Parish's brittlescale *Atriplex parishii*	PDCHE041D0	None	None	G1G2	S1	1B.1
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
prostrate vernal pool navarretia *Navarretia prostrata*	PDPLM0C0Q0	None	None	G2	S2	1B.1
Riversidian Alluvial Fan Sage Scrub *Riversidian Alluvial Fan Sage Scrub*	CTT32720CA	None	None	G1	S1.1	
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	PDBRA1M114	None	None	G5T3	S3	4.3
round-leaved filaree *California macrophylla*	PDGER01070	None	None	G3?	S3?	1B.2
salt marsh bird's-beak *Chloropyron maritimum ssp. maritimum*	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
Salt Spring checkerbloom *Sidalcea neomexicana*	PDMAL110J0	None	None	G4	S2	2B.2
San Bernardino aster *Symphyotrichum defoliatum*	PDASTE80C0	None	None	G2	S2	1B.2
San Bernardino ringneck snake *Diadophis punctatus modestus*	ARADB10015	None	None	G5T2T3Q	S2?	
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	AMAEB03051	None	None	G5T3T4	S3S4	SSC
San Diego desert woodrat *Neotoma lepida intermedia*	AMAFF08041	None	None	G5T3T4	S3S4	SSC
San Fernando Valley spineflower *Chorizanthe parryi var. fernandina*	PDPGN040J1	Candidate	Endangered	G2T1	S1	1B.1
sandy beach tiger beetle *Cicindela hirticollis gravida*	IICOL02101	None	None	G5T2	S2	
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	AFCJB3705K	None	None	G5T1	S1	SSC
Santa Ana sucker *Catostomus santaanae*	AFCJC02190	Threatened	None	G1	S1	
Santa Monica dudleya *Dudleya cymosa ssp. ovatifolia*	PDCRA040A5	Threatened	None	G5T1	S1	1B.1
Santa Monica shieldback katydid *Aglaothorax longipennis*	IIORT32020	None	None	G1G2	S1S2	
Santa Susana tarplant *Deinandra minthornii*	PDAST4R0J0	None	Rare	G2	S2	1B.2
silver-haired bat *Lasionycteris noctivagans*	AMACC02010	None	None	G5	S3S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
silvery legless lizard *Anniella pulchra pulchra*	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
slender mariposa-lily *Calochortus clavatus var. gracilis*	PMLIL0D096	None	None	G4T2T3	S2S3	1B.2
slender-horned spineflower *Dodecahema leptoceras*	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
south coast marsh vole *Microtus californicus stephensi*	AMAFF11035	None	None	G5T1T2	S1S2	SSC
south coast saltscale *Atriplex pacifica*	PDCHE041C0	None	None	G4	S2	1B.2
Southern California Arroyo Chub/Santa Ana Sucker Stream *Southern California Arroyo Chub/Santa Ana Sucker Stream*	CARE2330CA	None	None	GNR	SNR	
Southern Coast Live Oak Riparian Forest *Southern Coast Live Oak Riparian Forest*	CTT61310CA	None	None	G4	S4	
Southern Cottonwood Willow Riparian Forest *Southern Cottonwood Willow Riparian Forest*	CTT61330CA	None	None	G3	S3.2	
southern grasshopper mouse *Onychomys torridus ramona*	AMAFF06022	None	None	G5T3	S3	SSC
Southern Mixed Riparian Forest *Southern Mixed Riparian Forest*	CTT61340CA	None	None	G2	S2.1	
southern mountain yellow-legged frog *Rana muscosa*	AAABH01330	Endangered	Endangered	G1	S1	SSC
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
southern tarplant *Centromadia parryi ssp. australis*	PDAST4R0P4	None	None	G3T2	S2	1B.1
Southern Willow Scrub *Southern Willow Scrub*	CTT63320CA	None	None	G3	S2.1	
southwestern willow flycatcher *Empidonax traillii extimus*	ABPAE33043	Endangered	Endangered	G5T2	S1	
steelhead - southern California DPS *Oncorhynchus mykiss irideus*	AFCHA0209J	Endangered	None	G5T1Q	S1	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	Candidate Threatened	G3G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	None	G2G3	S1S2	SSC
two-striped gartersnake *Thamnophis hammondii*	ARADB36160	None	None	G4	S3S4	SSC
Valley Oak Woodland *Valley Oak Woodland*	CTT71130CA	None	None	G3	S2.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ventura Marsh milk-vetch *Astragalus pycnostachyus var. lanosissimus*	PDFAB0F7B1	Endangered	Endangered	G2T1	S1	1B.1
western bristly scaleseed *Spermolepis lateriflora*	PDAPI23080	None	None	G5	SH	2A
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow bat *Lasiurus xanthinus*	AMACC05070	None	None	G5	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white rabbit-tobacco *Pseudognaphalium leucocephalum*	PDAST440C0	None	None	G4	S2	2B.2
white-veined monardella *Monardella hypoleuca ssp. hypoleuca*	PDLAM180A3	None	None	G4T2T3	S2S3	1B.3

Record Count: 90

CNPS Inventory of Rare and Endangered Plants
Status: Plant Press Manager window with 37 items - Thu, Jun. 30, 2016 15:49 ET c
9-Quad Selection: Van Nuys, San Fernando, Sunland, Canoga Park, Topanga, Oat Mountain, Burbank, Beverly Hills, and Hollywood

STATUS and RARITY REPORT

Scientific	Family	CNPS	STATE	State Rank	FEDERAL	Global Rank
Arenaria paludicola	Caryophyllaceae	List 1B.1	Endangered	S1	Endangered	G1
Astragalus brauntonii	Fabaceae	List 1B.1	None	S2	Endangered	G2
Astragalus pycnostachyus var. lanosissimus	Fabaceae	List 1B.1	Endangered	S1	Endangered	G2T1
Astragalus tener var. titi	Fabaceae	List 1B.1	Endangered	S1	Endangered	G2T1
Atriplex coulteri	Chenopodiaceae	List 1B.2	None	S1S2	None	G3
Atriplex pacifica	Chenopodiaceae	List 1B.2	None	S2	None	G4
Atriplex parishii	Chenopodiaceae	List 1B.1	None	S1	None	G1G2
Atriplex serenana var. davidsonii	Chenopodiaceae	List 1B.2	None	S1	None	G5T1
Berberis nevinii	Berberidaceae	List 1B.1	Endangered	S1	Endangered	G1
California macrophylla	Geraniaceae	List 1B.2	None	S3?	None	G3?
Calochortus clavatus var. gracilis	Liliaceae	List 1B.2	None	S2S3	None	G4T2T3
Calystegia felix	Convolvulaceae	List 3.1	None	SH	None	GHQ
Camissoniopsis lewisii	Onagraceae	List 3	None	S4	None	G4
Centromadia parryi ssp. australis	Asteraceae	List 1B.1	None	S2	None	G3T2
Chloropyron maritimum ssp. maritimum	Orobanchaceae	List 1B.2	Endangered	S1	Endangered	G4?T1
Chorizanthe parryi var. fernandina	Polygonaceae	List 1B.1	Endangered	S1	FC	G2T1
Deinandra minthornii	Asteraceae	List 1B.2	Rare	S2	None	G2
Dithyrea maritima	Brassicaceae	List 1B.1	Threatened	S1	None	G1
Dodecahema leptoceras	Polygonaceae	List 1B.1	Endangered	S1	Endangered	G1
Dudleya cymosa ssp. ovatifolia	Crassulaceae	List 1B.1	None	S1	Threatened	G5T1
Dudleya multicaulis	Crassulaceae	List 1B.2	None	S2	None	G2
Helianthus nuttallii ssp. parishii	Asteraceae	List 1A	None	SH	None	G5TH
Hordeum intercedens	Poaceae	List 3.2	None	S3S4	None	G3G4
Horkelia cuneata var. puberula	Rosaceae	List 1B.1	None	S1	None	G4T1
Lasthenia glabrata ssp. coulteri	Asteraceae	List 1B.1	None	S2	None	G4T2
Linanthus concinnus	Polemoniaceae	List 1B.2	None	S3	None	G3
Malacothamnus davidsonii	Malvaceae	List 1B.2	None	S2	None	G2
Monardella hypoleuca ssp. hypoleuca	Lamiaceae	List 1B.3	None	S2S3	None	G4T2T3

Nama stenocarpa	Boraginaceae	List 2B.2	None	S1S2	None	G4G5
Nasturtium gambelii	Brassicaceae	List 1B.1	Threatened	S1	Endangered	G1
Pseudognaphalium leucocephalum	Asteraceae	List 2B.2	None	S2	None	G4
Quercus dumosa	Fagaceae	List 1B.1	None	S3	None	G3
Sidalcea neomexicana	Malvaceae	List 2B.2	None	S2	None	G4
Spermolepis lateriflora	Apiaceae	List 2A	None	SH	None	G5
Symphyotrichum defoliatum	Asteraceae	List 1B.2	None	S2	None	G2
Symphyotrichum greatae	Asteraceae	List 1B.3	None	S2	None	G2
Thelypteris puberula var. sonorensis	Thelypteridaceae	List 2B.2	None	S2	None	G5T3

APPENDIX D

Cultural Resource Technical Report

CULTURAL RESOURCE TECHNICAL REPORT
for the
NORTH HOLLYWOOD WEST WELL FIELD
WATER TREATMENT PROJECT
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012
Contact: Nadia Parker

Prepared by:

Adriane Dorrler, BA and Samantha Murray, MA, RPA

DUDEK
38 Marengo Avenue
Pasadena, California 91101

NOVEMBER 2016

Cultural Resources Technical Report for the North Hollywood West Well Field Water Treatment Project, Los Angeles County, California

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Authors: Adriane Dorrler, BA, and Samantha Murray, MA, RPA

Firm: Dudek

Project Proponent: Los Angeles Department of Water and Power
Environmental Planning Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012

Report Date: June 2016

Report Title: North Hollywood West Well Field Water Treatment Project, Los Angeles County, California

Type of Study: Cultural Resources Inventory

New Sites: None

Updated Sites: None

USGS Quads: Van Nuys, CA 1:24,000; T 1 N, R 15 W; Section 01

Acreage: Approximately 4 acres

Keywords: survey, intensive, negative results, 4.0 acres, Community of North Hollywood, City of Los Angeles, Los Angeles County, Van Nuys quadrangle, Township 1 North, Range 15 West

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

APPENDICES

FIGURES

TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ACHP	Advisory Council on Historic Preservation
AMSL	above mean sea level
ADI	Area of Direct Impact
AOP	Advanced Oxidation Process
APE	Area of Potential Effect
ARMR	Archaeological Resource Management Report
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
GAC	Granular Activated Carbon
LADWP	Los Angeles Department of Water and Power
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NHW	North Hollywood West
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PQS	Professional Qualification Standards
PRC	Public Resources Code
RPA	Register of Professional Archaeologists
SCCIC	South Central Coastal Information Center
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SR	State Route
SRF	State Revolving Fund
SWRCB	State Water Resources Control Board
USGS	U.S. Geological Survey
UV	ultraviolet

MANAGEMENT SUMMARY

The Los Angeles Department of Water and Power (LADWP) proposes to implement a response action to address releases of 1,4 dioxane in groundwater that are migrating to the North Hollywood West (NHW) Well Field. LADWP has removed sevenwells in this well field from service due to the presence and/or threat of 1,4-dioxane contamination atthe wells. This response action would be achieved by installing water treatment equipment at the well field capable of removing the 1,4-dioxane to below the identified cleanup levels. The treatment equipment will be located on property owned by LADWP that includes the affected groundwater extraction wellheads. The Proposed Project site is located within the existing NHW well field site adjacent to Whitsett Fields in Valley Plaza Park located in the community of North Hollywood in the City and County of Los Angeles, California. The proposed area of potential effects (APE) consists of an approximately 4-acre Project site, which is comprised of the area on which the treatment equipment would be installed and two access roads.

The scope of the current study was to review available archaeological, Native American, and historic literature covering the Project site; to conduct a pedestrian survey of the area; and to provide a cultural resources technical report. As partial funding for the Project is from the State Revolving Fund (SRF) Loan Program, the regulatory framework for the Project is California Environmental Quality Act (CEQA) Plus. Therefore, the purpose of this report is to identify all cultural resources within the Proposed Project APE and to determine whether the Proposed Project would result in a significant impact to an historical resource under CEQA or an adverse effect to an historic property under Section 106 of the National Historic Preservation Act (NHPA).

The Native American Heritage Commission (NAHC) provided results of their Sacred Lands File (SLF) search of the Proposed Project on October 6, 2015. Dudek requested a California Historical Resources Information System (CHRIS) records search for the Proposed Project on March 11, 2016. Staff at the South Central Coastal Information Center (SCCIC) conducted the search and provided the results on March 28, 2016. Dudek conducted the Class III intensive pedestrian survey for cultural resources on April 13, 2016. At the request of LADWP, on May 5, 2016, Dudek sent request for information letters to each Native American individual listed on the NAHC contact list. On June 10, 2016, Dudek initiated follow-up correspondence with Native American individuals who had not responded to the initial inquiry letters. Dudek completed this report in June 2016.

The SLF search was complete with negative results. The SCCIC records indicate that 20 cultural resources investigations have been conducted within 1 mile of the APE. Of these, one study was mapped as overlapping the APE; however, the negative findings report states the survey was conducted entirely within the paved travel way of the Hollywood Freeway, which is outside of the APE. There are no previously recorded cultural resources located in the APE. The five resources

located within 1 mile of the APE all consist of historic-age built environment resources. No built environment resources were identified within the APE as a result of the archival map review. No cultural resources were identified within the APE as a result of the pedestrian survey.

Dudek received five responses regarding the request for information letters sent to Native American individuals on the NAHC contact list as of the submittal of this report. The Fernandeño Tataviam Band of Mission Indians requested formal consultation with the lead agency pursuant to AB 52. Dudek forwarded this request to the LADWP. Anthony Morales, Chairperson of the Gabrieleño/Tongva San Gabriel Band of Mission Indians, requested that a statement of his be included in the environmental documentation for this undertaking. Mr. Morales indicated that the Project site is within a sensitive cultural landscape and therefore the Proposed Project warrants due diligence with cultural resources. Due diligence has been accomplished with the Project records search, site survey, consultations, and environmental document mitigation. The remaining individuals either had no comment on the proposed undertaking or did not respond to the initial inquiry letter and follow-up telephone call.

While the LADWP has yet to receive any requests from tribes for formal notification of specific projects, they reached out to all groups listed on the NAHC's Tribal Consultation List in a good faith effort to provide notification of the Proposed Project. As a result of the AB 52 notification, one tribe, the Fernandeño Tataviam Band of Mission Indians, requested consultation with the lead agency. This consultation has concluded to the satisfaction of both parties.

As a result of the cultural resources study for the Proposed Project, no cultural or built environment resources have been identified within the Project APE. Therefore no known historic properties will be affected by the proposed undertaking and no known historical resources will be impacted by the Proposed Project. No further management recommendations are necessary beyond standard measures to address unanticipated discoveries of cultural resources and human remains.

1 INTRODUCTION

The LADWP retained Dudek to conduct a cultural resources study in support of the proposed North Hollywood West Well Field Water Treatment Project (herein referred to as "Proposed Project"). This report presents the results of a cultural resources records search, Native American coordination, and intensive pedestrian survey of the proposed APE. The APE consists of an approximately 4-acre parcel located within the community of North Hollywood, City of Los Angeles, Los Angeles County, California (Figure 1).

This report satisfies the requirements of CEQA, which requires lead agencies to determine whether a discretionary project may have a significant impact on historical resources. The LADWP, as a municipal utility, would implement and operate the Proposed Project and will therefore act as the CEQA lead agency. As partial funding for the Project is from the SRF Loan Program, the regulatory framework for the Project is CEQA Plus, which requires the SWRCB to consult directly with agencies responsible for implementing federal environmental laws and regulations. As such, Project-related activities with the potential to affect historic properties are considered federal undertakings, subject to compliance with Section 106 of the NHPA of 1966, as amended, and its implementing regulations (36 CFR Part 800). Therefore, the purpose of this report is to identify all cultural resources within the Proposed Project APE and to determine whether the Proposed Project/undertaking would result in a significant impact to an historical resource under CEQA or an adverse effect to a historic property under Section 106 of the NHPA. This report meets the format and content requirements of the Archaeological Resource Management Report (ARMR) report format and content guidelines recommended by the California Office of Historic Preservation (OHP 1995).

Archaeologist Adriane Dorrler, B.A. authored this report, requested the records search from the SCCIC, and conducted the cultural resources field survey for this Project. Quality assurance/quality control was provided by Archaeological Principal Investigator Samantha Murray, M.A., Registered Professional Archaeologist (RPA). Ms. Murray meets the Secretary of the Interior's Professional Qualification Standards (PQS, 36 CFR Part 61) for archaeology.

ESRI 2015

FIGURE 1

Regional Map

North Hollywood West Well Field Water Treatment Project - Cultural Resource Technical Report

Z:\Templates\Arcmap\Current\Vicinity\8x11_Vicinity_Portrait.mxd

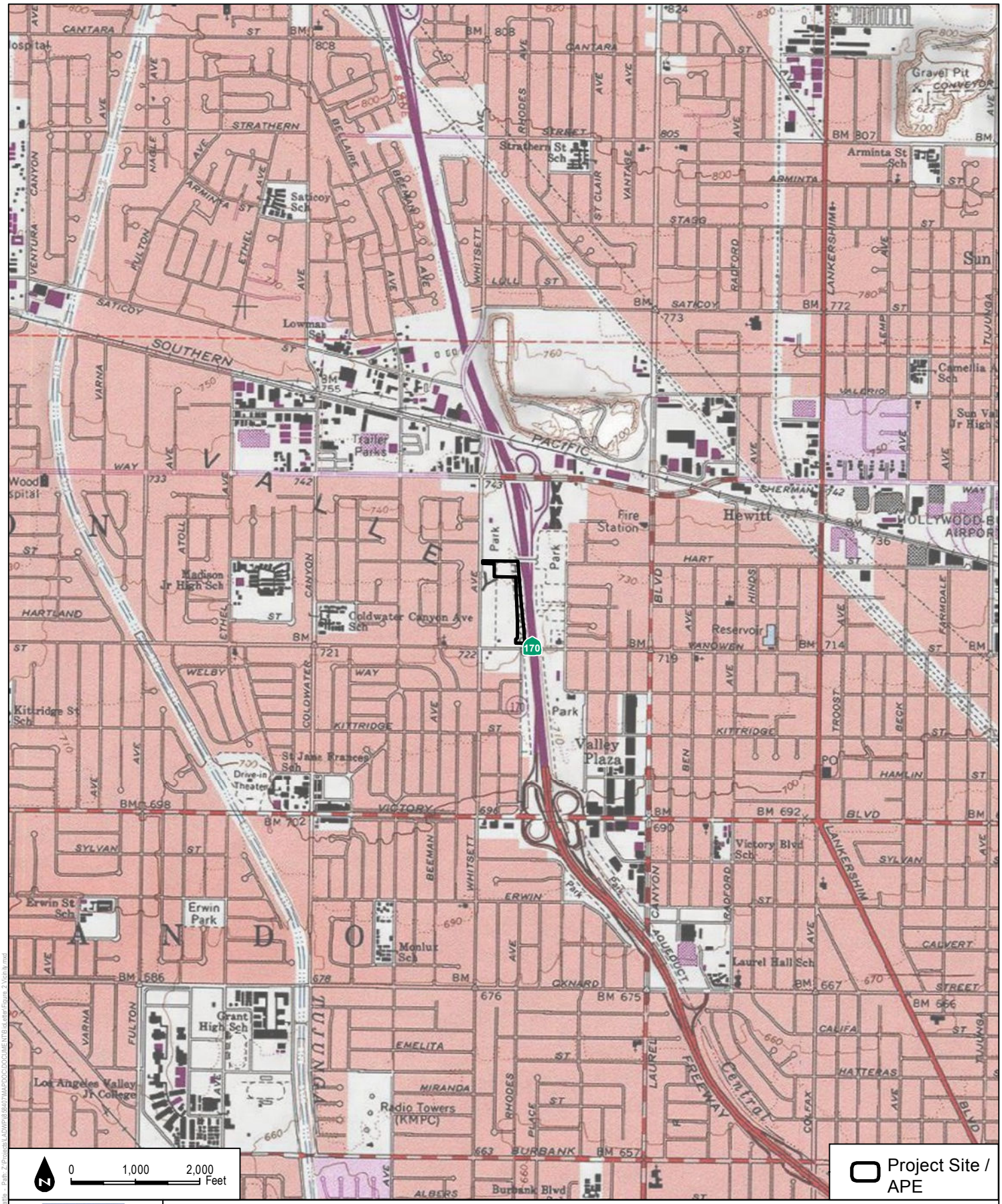
1.1 Project Description/Undertaking

The LADWP proposes implement a response action to address releases of 1,4 dioxane in groundwater that are migrating to the NHW Well Field. This response action would be achieved by installing treatment equipment at the well field capable of removing 1,4-dioxane to below the identified cleanup levels. The treatment equipment would be located on property owned by LADWP that includes the affected seven groundwater extraction wellheads. The property is located between the Hollywood Freeway (State Route [SR]-170) and Whitsett Fields, which is part of Valley Plaza Park, located in the community of North Hollywood in the City of Los Angeles (Figures 2 and 3). The extracted groundwater captured by the NHW remediation wells would be treated with an advanced oxidation process (AOP), that involves use of hydrogen peroxide with sequential exposure to ultraviolet (UV) light. In addition, granular activated carbon (GAC) filtration would be used to remove any excess hydrogen peroxide in the product water. The treated water would be conveyed to the existing LADWP water distribution system.

The approximately 4-acre Project site contains eight (one inactive) wellheads, a well control house, a water distribution pipeline, two access drives, and existing water treatment infrastructure (Figure 4). Under the Proposed Project, the existing infrastructure on the Project site would remain in place (i.e., the well control house, the wellheads, and the water distribution pipelines). As part of the Proposed Project, an AOP water treatment system would be added to the site (Figure 5).

1.2 Project Location

The Proposed Project site is located within the existing NHW well field, adjacent to Whitsett Fields in Valley Plaza Park in the City of Los Angeles. To the immediate east is SR-170, which forms the eastern boundary of the Project site. Access is via two existing LADWP access roads, which extend from Vanowen Street to the south and Whitsett Avenue to the west. The Project site is generally bounded to the north, west, and south by sports fields. The Project site is also surrounded by chain-link fencing that separates it from the park areas; the site is not open to the public. LADWP owns the Project site and the sports fields that are located adjacent to the Project site. The sports fields are used by the City of Los Angeles Department of Recreation and Parks. The Project site and the sports fields are collectively part of Assessor's Parcel Number 2324-035-902, which occupies a total of 12 acres (City of Los Angeles 2015). The Proposed Project falls in Section 01 of the *Van Nuys*, CA 1:24,000 U.S. Geological Survey (USGS) map (Township 1 North; Range 15 West).



SOURCE: USGS 7.5-Minute Series Van Nuys Quadrangle
Township 1N / Range 15W / Section 01

FIGURE 2
Project Location Map

North Hollywood West Well Field Water Treatment Project - Cultural Resource Technical Report

SOURCE: Bing Maps, 2016

FIGURE 3

Project Site Map

North Hollywood West Well Field Water Treatment Project - Cultural Resource Technical Report

SOURCE: Bing Maps, 2015

FIGURE 4

Existing Site Infrastructure and Access Roads

North Hollywood West Well Field Water Treatment Project - Cultural Resource Technical Report

SOURCE: Bing Maps, 2015

FIGURE 5

Proposed AOP Treatment Site

North Hollywood West Well Field Water Treatment Project - Cultural Resource Technical Report

1.3 Area of Potential Effect

The APE includes consideration of the direct and indirect effects of the Proposed Project/undertaking. The APE consists of the approximately 4-acre Project site, which is comprised of the NHW well field including the two access roads. Materials and supplies laydown, equipment storage, and worker vehicle parking would be confined to the Project site. The Area of Direct Impact (ADI) consists of the approximately 2-acre "facilities site," which consists of the Project site, minus the two access drive areas. Grading, excavation, and installation of the treatment equipment would occur within the facilities site (see Section 1.3.1 for a description of the proposed construction activities).

The vertical APE for the Project is considered the sediments disturbed during Project construction that have the potential to contain intact cultural deposits. The amount of disturbed sediments varies according to the topography and construction needs, but overall ground disturbance would not exceed depths of 4 feet.

1.3.1 Construction

Construction of the Proposed Project would involve several tasks that would be completed in phases, as follows: site preparation; piping, conduit, and concrete installation; equipment installation; and structures and commissioning. All construction would be staged from the Project site. The four construction phases are described below.

Site Preparation. During this phase, the site would be prepared for installation of the water treatment equipment by removing several on-site trees and shrubs; stripping, stockpiling, spreading, and compacting the soil; and excavating to prepare for installation of underground piping and conduit. Stripped soil would be stockpiled and used as backfill or would be spread and compacted on site. Structural excavation would also occur during this phase, consisting of excavation, loading and hauling of materials, fine grading in preparation for slab-on-grade installation, and soil compaction.

Piping, Conduit, and Concrete Pad Installation. The Proposed Project would involve installation of 2,000 linear feet of 24–inch diameter steel piping and 1,000 linear feet of 6–inch diameter conduit. Piping and conduit would be placed primarily underground. Once the underground piping and conduit are installed, the soil would be backfilled and compacted. During this phase, concrete pad placement would also occur.

Equipment Installation. Once the site has been cleared, concrete pads have been constructed, and piping and conduit installed, the water treatment equipment would be delivered to the site and put in place.

Structures and Commissioning. During this phase, roof framing would be installed on the peroxide storage building, and the UV building would be constructed around the UV reactors.

1.4 Regulatory Setting

This study was completed in compliance with federal cultural resources laws and regulations, including Section 106 of the NHPA. Under Section 106, historic and archaeological districts, sites, buildings, structures, and objects are assigned significance based on their exceptional value or quality in illustrating or interpreting history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance; these are described below.

1.4.1 Federal

The NHPA established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation (ACHP), and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that

> [t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP.

Section 106 also affords the ACHP a reasonable opportunity to comment on the undertaking (16 U.S.C. 470f).

36 Code of Federal Regulations, Part 800 (36 CFR 800) implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historic significance in consultation with the ACHP and the California SHPO to determine if

the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

B. Are associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. have yielded or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

The 1992 amendments to the NHPA enhance the recognition of tribal governments' roles in the national historic preservation program, including adding a member of an Indian tribe or Native Hawaiian organization to the ACHP.

The NHPA amendments:

- Clarify that properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined eligible for inclusion in the National Register
- Reinforce the provisions of the Council's regulations that require the federal agency to consult on properties of religious and cultural importance.

The 1992 amendments also specify that the ACHP can enter into agreement with tribes that permit undertakings on tribal land and that are reviewed under tribal regulations governing Section 106. Regulations implementing the NHPA state that a federal agency must consult with any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by an undertaking.

1.4.2 State

1.4.2.1 The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, 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." (Public Resources Code [PRC] section 5020.1(j).) In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." (PRC section 5024.1(a).) The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than fifty years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see Cal. Code Regs., tit. 14, section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

1.4.2.2 California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC section 21083.2(g) defines "unique archaeological resource."
- PRC section 21084.1 and CEQA Guidelines section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource;" it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC section 21074(a) defines "tribal cultural resources."
- PRC section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource." (PRC section 21084.1; CEQA Guidelines section 15064.5(b).) If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).) The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption. (PRC section 21084.1; CEQA Guidelines section 15064.5(a).)

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines section 15064.5(b)(1);

PR Code section 5020.1(q)). In turn, the significance of an historical resource is materially impaired when a project:

> (1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
>
> (2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
>
> (3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

(CEQA Guidelines section 15064.5(b)(2).) Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2(a), (b), and (c)).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC section 21083.2(a); CEQA Guidelines section 15064.5(c)(4).) However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC section 5097.98.

1.4.2.3 California Health and Safety Code

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (section 7050.5b). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

2 SETTING

2.1 Natural Setting

The APE is located in central eastern San Fernando Valley, southwest of the Verdugo Mountains and north of the Santa Monica Mountains within a highly developed segment of the Central Branch Tujunga Wash. The APE is at an elevation of 735 feet above mean sea level (amsl) at the northern end of the Project site and gradually decreasing in elevation to 725 feet amsl near the southern end. The Proposed Project site is located in a highly urbanized area developed primarily with residential, public facilities, commercial, and industrial land uses. The Project site is surrounded on three sides by recreational land uses (i.e., Whitsett Fields) and on one side by a major transportation corridor (SR-170). Single- and multi-family residential uses are located to the east, west, and south of the recreational uses that surround the Project site. Industrial uses are located to the north. Some commercial uses are located near major intersections in the vicinity of the Project site.

The San Fernando Valley is a structurally complex, sedimentologically diverse, and tectonically evolving late Tertiary-Quaternary basin situated within the Transverse Ranges physiographic province of southern California. The Transverse Ranges province is composed of parallel, east-west trending mountain ranges and sediment-filled valleys, and is considered one of the most active provinces in the United States. The Transverse Ranges have a distinctive geological structure dominated by the effects of north-south compressive deformation resulting in thrust faulting, strike-slip faulting, and bedrock folding. These are attributable to convergence between the "Big Bend" of the San Andreas fault and northwestern motion of the Pacific Plate (USGS 2005). The floor of the San Fernando Valley is composed of alluvial fans and floodplains. The eastern portion of the valley was formed by powerful streams from Pacoima and Big Tujunga canyons, which drain and deposit coarse, highly permeable alluvium. The more shallow western portion of the valley derives mainly from Tertiary and pre-Tertiary sedimentary rocks, and is underlain by less permeable, fine-grained deposits containing persistent shallow ground water and poorer water quality (Tinsley 2001).

The APE is located within the San Fernando Valley Groundwater Basin, which includes the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The basin is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. The San Fernando Valley is drained by the Los Angeles River and its tributaries. The nearest natural fresh water feature is the Central Branch

Tujunga Wash, a subsidiary of the Tujunga Wash, a tributary of the Los Angeles River. The APE is located within the floodplain of the Central Branch Tujunga Wash.

Because most of the APE has been heavily disturbed, there is almost no natural plant community. Prior to development, the predominant natural plant community within the APE would be alluvial scrub. Surrounding the APE, California sagebrush, including California buckwheat series, Mixed sage series, and Coast live oak series, and California walnut series are common, but not extensive. Chamise series and Mixed chaparral shrublands are common in the Verdugo Mountains and San Rafael Hills (City of Los Angeles 2006). Most of the vegetation found within the APE consists of nonnative ornamental landscaping. Vegetation observed within the APE includes a variety of nonnative grasses, shrubs, and eucalyptus. Fauna observed during the survey included a variety of small lizards and birds.

2.2 Cultural Setting

2.2.1 Prehistoric Overview

Numerous chronological sequences have been devised to aid in understanding cultural changes within southern California. Building on early studies and focusing on data synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region that is still widely used today and is applicable to near-coastal and many inland areas. Four periods are presented in Wallace's prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Although Wallace's (1955) synthesis initially lacked chronological precision due to a paucity of absolute dates (Moratto 1984), this situation has been alleviated by the availability of thousands of radiocarbon dates that have been obtained by southern California researchers in the last three decades (Byrd and Raab 2007:217). Several revisions have been made to Wallace's (1955) synthesis using radiocarbon dates and projectile point assemblages (e.g., Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994).

2.2.1.1 Horizon I–Early Man (ca. 10,000–6,000 B.C.)

When Wallace defined the Horizon I (Early Man) period in the mid-1950s, there was little evidence of human presence on the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified numerous pre-8000 B.C. sites, both on the mainland coast and the Channel Islands (e.g., Erlandson 1991; Johnson et al. 2002; Moratto 1984; Rick et al. 2001). The earliest accepted dates for occupation are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area about 10,000 years ago (Erlandson 1991). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to

approximately 13,000 years ago (Johnson et al. 2002). Present-day Orange and San Diego counties contain several sites dating to 9,000 to 10,000 years ago (Byrd and Raab 2007; Macko 1998a; Mason and Peterson 1994; Sawyer and Koerper 2006). Known sites dating to the Early Man period are rare in western Riverside County. One exception is the Elsinore site (CA-RIV-2798-B), which has deposits dating as early as 6630 calibrated B.C. (Grenda 1997).

Recent data from Horizon I sites indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002) and on Pleistocene lakeshores in eastern San Diego County (see Moratto 1984). Although few Clovis-like or Folsom-like fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), it is generally thought that the emphasis on hunting may have been greater during Horizon I than in later periods. Common elements in many sites from this period, for example, include leaf-shaped bifacial projectile points and knives, stemmed or shouldered projectile points, scrapers, engraving tools, and crescents (Wallace 1978). Subsistence patterns shifted around 6000 B.C. coincident with the gradual desiccation associated with the onset of the Altithermal climatic regime, a warm and dry period that lasted for about 3,000 years. After 6000 B.C., a greater emphasis was placed on plant foods and small animals.

2.2.1.2 Horizon II–Milling Stone (6000–3000 B.C.)

The Milling Stone Horizon of Wallace (1955, 1978) and Encinitas Tradition of Warren (1968) (6000–3000 B.C.) are characterized by subsistence strategies centered on collecting plant foods and small animals. Food procurement activities included hunting small and large terrestrial mammals, sea mammals, and birds; collecting shellfish and other shore species; near-shore fishing with barbs or gorges; the processing of yucca and agave; and the extensive use of seed and plant products (Kowta 1969). The importance of the seed processing is apparent in the dominance of stone grinding implements in contemporary archaeological assemblages, namely milling stones (metates and slabs) and handstones (manos and mullers). Milling stones occur in large numbers for the first time during this period, and are more numerous still near the end of this period. Recent research indicates that Milling Stone Horizon food procurement strategies varied in both time and space, reflecting divergent responses to variable coastal and inland environmental conditions (Byrd and Raab 2007).

Milling Stone Horizon sites are common in the southern California coastal region between Santa Barbara and San Diego, and at many inland locations, including the Prado Basin in western Riverside County and the Pauma Valley in northeastern San Diego County (e.g., Herring 1968; Langenwalter and Brock 1985; Sawyer and Brock 1999; Sutton 1993; True 1958). Wallace (1955, 1978) and Warren (1968) relied on several key coastal sites to characterize the Milling Stone period and Encinitas Tradition, respectively. These include the Oak Grove Complex in the

Santa Barbara region, Little Sycamore in southwestern Ventura County, Topanga Canyon in the Santa Monica Mountains, and La Jolla in San Diego County. The well-known Irvine site (CA-ORA-64) has occupation levels dating between ca. 6000 and 4000 B.C. (Drover et al. 1983; Macko 1998b).

Stone chopping, scraping, and cutting tools made from locally available raw material are abundant in Milling Stone/Encinitas deposits. Less common are projectile points, which are typically large and leaf-shaped, and bone tools such as awls. Items made from shell, including beads, pendants, and abalone dishes, are generally rare. Evidence of weaving or basketry is present at a few sites. Kowta (1969) attributes the presence of numerous scraper-planes in Milling Stone sites to the preparation of agave or yucca for food or fiber. The mortar and pestle, associated with pounding foods such as acorns, were first used during the Milling Stone Horizon (Wallace 1955, 1978; Warren 1968).

Cogged stones and discoidals are diagnostic Milling Stone period artifacts, and most specimens have been found within sites dating between 4000 and 1000 B.C. (Moratto 1984). The cogged stone is a ground stone object with gear-like teeth on its perimeter. Discoidals are similar to cogged stones, differing primarily in their lack of edge modification. Discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals are often purposefully buried, and are found mainly in sites along the coastal drainages from southern Ventura County southward, with a few specimens inland at Cajon Pass, and heavily in Orange County (Dixon 1968; Moratto 1984). These artifacts are often interpreted as ritual objects (Eberhart 1961; Dixon 1968), although alternative interpretations (such as gaming stones) have also been put forward (e.g., Moriarty and Broms 1971).

Characteristic mortuary practices of the Milling Stone period or Encinitas Tradition include extended and loosely flexed burials, some with red ochre, and few grave goods such as shell beads and milling stones interred beneath cobble or milling stone cairns. "Killed" milling stones, exhibiting holes, may occur in the cairns. Reburials are common in the Los Angeles County area, with north-oriented flexed burials common in Orange and San Diego counties (Wallace 1955, 1978; Warren 1968).

Koerper and Drover (1983) suggest that Milling Stone period sites represent evidence of migratory hunters and gatherers who used marine resources in the winter and inland resources for the remainder of the year. Subsequent research indicates greater sedentism than previously recognized. Evidence of wattle-and-daub structures and walls has been identified at several sites in the San Joaquin Hills and Newport Coast area (Mason et al. 1991, 1992, 1993; Koerper 1995; Strudwick 2005; Sawyer 2006), while numerous early house pits have been discovered on San Clemente Island (Byrd and Raab 2007). This architectural evidence and seasonality studies suggest semi-

permanent residential base camps that were relocated seasonally (de Barros 1996; Koerper et al. 2002; Mason et al. 1997) or permanent villages from which a portion of the population left at certain times of the year to exploit available resources (Cottrell and Del Chario 1981).

2.2.1.3 Horizon III–Intermediate (3000 B.C.–A.D. 500)

Following the Milling Stone Horizon, Wallace's Intermediate Horizon and Warren's Campbell Tradition in Santa Barbara, Ventura, and parts of Los Angeles counties, date from approximately 3000 B.C. to A.D. 500 and are characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. The Campbell Tradition (Warren 1968) incorporates David B. Rogers' (1929) Hunting Culture and related expressions along the Santa Barbara coast. In the San Diego region, the Encinitas Tradition (Warren 1968) and the La Jolla Culture (Moriarty 1966; Rogers 1939, 1945) persist with little change during this time.

During the Intermediate Horizon and Campbell Tradition, there was a pronounced trend toward greater adaptation to regional or local resources. For example, an increasing variety and abundance of fish, land mammal, and sea mammal remains are found in sites along the California coast during this period. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks become part of the tool kit during this period. Larger knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms. Koerper and Drover (1983) consider Gypsum Cave and Elko series points, which have a wide distribution in the Great Basin and Mojave deserts between ca. 2000 B.C. and A.D. 500, to be diagnostic of this period. Bone tools, including awls, were more numerous than in the preceding period, and the use of asphaltum adhesive was common.

Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling equipment. Hopper mortars and stone bowls, including steatite vessels, appeared in the tool kit at this time as well. This shift appears to correlate with the diversification in subsistence resources. Many archaeologists believe this change in milling stones signals a shift away from the processing and consuming of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988; True 1993). It has been argued that mortars and pestles may have been used initially to process roots (e.g., tubers, bulbs, and corms associated with marshland plants), with acorn processing beginning at a later point in prehistory (Glassow 1997) and continuing to European contact.

Characteristic mortuary practices during the Intermediate Horizon and Campbell Tradition included fully flexed burials, placed facedown or faceup, and oriented toward the north or west (Warren 1968). Red ochre was common, and abalone shell dishes were infrequent. Interments

sometimes occurred beneath cairns or broken artifacts. Shell, bone, and stone ornaments, including charmstones, were more common than in the preceding Encinitas Tradition. Some later sites include Olivella shell and steatite beads, mortars with flat bases and flaring sides, and a few small points. The broad distribution of steatite from the Channel Islands and obsidian from distant inland regions, among other items, attest to the growth of trade, particularly during the latter part of this period. Recently, Raab and others (Byrd and Raab 2007) have argued that the distribution of Olivella grooved rectangle (OGR) beads marks "a discrete sphere of trade and interaction between the Mojave Desert and the southern Channel Islands."

2.2.1.4 Horizon IV–Late Prehistoric (A.D. 500–Historic Contact)

In the Late Prehistoric Horizon (Wallace 1955, 1978), which lasted from the end of the Intermediate (ca. A.D. 500) until European contact, there was an increase in the use of plant food resources in addition to an increase in land and sea mammal hunting. There was a concomitant increase in the diversity and complexity of material culture during the Late Prehistoric, demonstrated by more classes of artifacts. The recovery of a greater number of small, finely chipped projectile points, usually stemless with convex or concave bases, suggests an increased usage of the bow and arrow rather than the atlatl (spear thrower) and dart for hunting. Other items include steatite cooking vessels and containers, the increased presence of smaller bone and shell circular fishhooks, perforated stones, arrow shaft straighteners made of steatite, a variety of bone tools, and personal ornaments made from shell, bone, and stone. There is also an increased use of asphalt for waterproofing and as an adhesive.

Many Late Prehistoric sites contain beautiful and complex objects of utility, art, and decoration. Ornaments include drilled whole venus clam (Chione spp.) and drilled abalone (Haliotis spp.). Steatite effigies become more common, with scallop (Pecten spp. and Argopecten spp.) shell rattles common in middens. Mortuary customs are elaborate and include cremation and interment with abundant grave goods. By A.D. 1000, fired clay smoking pipes and ceramic vessels began to appear at some sites (Drover 1971, 1975; Meighan 1954; Warren and True 1984). The scarcity of pottery in coastal and near-coastal sites implies ceramic technology was not well developed in that area, or that ceramics were obtained by trade with neighboring groups to the south and east. The lack of widespread pottery manufacture is usually attributed to the high quality of tightly woven and watertight basketry that functioned in the same capacity as ceramic vessels.

Another feature typical of Late Prehistoric period occupation is an increase in the frequency of obsidian imported from the Obsidian Butte source in Imperial County, California. Obsidian Butte was exploited after ca. A.D. 1000 when it was exposed by the receding waters of Holocene Lake Cahuilla (Wilke 1978). A Late Prehistoric period component of the Elsinore site (CA-RIV-2798-A) produced two flakes that originated from Obsidian Butte (Grenda 1997; Towner et al. 1997).

Although about 16 percent of the debitage at the Peppertree site (CA-RIV-463) at Perris Reservoir is obsidian, no sourcing study was done (Wilke 1974). The site contains a late Intermediate to Late Prehistoric period component, and it is assumed that most of the obsidian originated from Obsidian Butte. In the earlier Milling Stone and Intermediate periods, most of the obsidian found at sites within Riverside County came from northern sources, primarily the Coso volcanic field. This appears to be the case within Prado Basin and other interior sites that have yielded obsidian (e.g., Grenda 1995; Taşkiran 1997). The presence of Grimes Canyon (Ventura County) fused shale at southern California archaeological sites is also thought to be typical of the Late Prehistoric period (Demcak 1981; Hall 1988).

During this period, there was an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955). Large populations and, in places, high population densities are characteristic, with some coastal and near-coastal settlements containing as many as 1,500 people. Many of the larger settlements were permanent villages in which people resided year-round. The populations of these villages may have also increased seasonally.

In Warren's (1968) cultural ecological scheme, the period between A.D. 500 and European contact is divided into three regional patterns. The Chumash Tradition is present mainly in the region of Santa Barbara and Ventura counties; the Takic or Numic Tradition is present in the Los Angeles, Orange, and western Riverside counties region; and the Yuman Tradition is present in the San Diego region. The seemingly abrupt changes in material culture, burial practices, and subsistence focus at the beginning of the Late Prehistoric period are thought to be the result of a migration to the coast of peoples from inland desert regions to the east. In addition to the small triangular and triangular side-notched points similar to those found in the desert regions in the Great Basin and Lower Colorado River, Colorado River pottery and the introduction of cremation in the archaeological record are diagnostic of the Yuman Tradition in the San Diego region. This combination certainly suggests a strong influence from the Colorado Desert region.

In Los Angeles, Orange, and western Riverside counties, similar changes (introduction of cremation, pottery, and small triangular arrow points) are thought to be the result of a Takic migration to the coast from inland desert regions. This Takic or Numic Tradition was formerly referred to as the "Shoshonean wedge" or "Shoshonean intrusion" (Warren 1968). This terminology, used originally to describe a Uto-Aztecan language group, is generally no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups who spoke Numic languages (Heizer 1978; Shipley 1978). Modern Gabrielino/Tongva, Juaneño, and Luiseño in this region are considered the descendants of the prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during this period or perhaps somewhat earlier.

2.2.2 Ethnographic Overview

The APE is in an area historically occupied by the Gabrielino. The archaeological record indicates that the Gabrielino arrived in the Los Angeles Basin around 500 B.C. Many contemporary Gabrielino identify themselves as descendants of the indigenous people living across the plains of the Los Angeles Basin and adjacent areas and use the native term Tongva to describe themselves (King 1994). This term is used in the remainder of this section to refer to the pre-contact inhabitants of the Los Angeles Basin and their descendants. Surrounding native groups included the Chumash and Tataviam to the northwest, the Serrano and Cahuilla to the northeast, and the Juaneño and Luiseño to the southeast.

The name "Gabrielino" denotes those people who were administered by the Spanish from the San Gabriel Mission, which included people from the Gabrielino area proper as well as other social groups (Bean and Smith 1978; Kroeber 1925). Therefore, in the post-Contact period, the name does not necessarily identify a specific ethnic or tribal group. The names by which Native Americans in southern California identified themselves have, for the most part, been lost. Many modern Gabrielino identify themselves as descendants of the indigenous people living across the plains of the Los Angeles Basin and refer to themselves as the Tongva (King 1994). This term is used in the remainder of this section to refer to the pre-Contact inhabitants of the Los Angeles Basin and their descendants.

Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands, San Clemente, San Nicolas, and Santa Catalina. The Tongva established large, permanent villages in the fertile lowlands along rivers and streams, and in sheltered areas along the coast, stretching from the foothills of the San Gabriel Mountains to the Pacific Ocean. A total tribal population has been estimated of at least 5,000 (Bean and Smith 1978), but recent ethnohistoric work suggests a number approaching 10,000 (O'Neil 2002). Houses constructed by the Tongva were large, circular, domed structures made of willow poles thatched with tule that could hold up to 50 people (Bean and Smith 1978). Other structures served as sweathouses, menstrual huts, ceremonial enclosures, and probably communal granaries. Cleared fields for races and games, such as lacrosse and pole throwing, were created adjacent to Tongva villages (McCawley 1996). Archaeological sites composed of villages with various sized structures have been identified.

The Gabrielino community of Siutcanga is believed to have been located at Rancho El Encino, a 4,461 acre tract of land granted to three ex-mission Indians named Ramón, Francisco, and Roque. When the Portolá expedition passed through the San Fernando Valley in 1769, the explorers stopped at a large freshwater pool located near "a populous Indian village" (McCawley 1996: 38). It is believed that the Spanish explorers stopped in an area near present-day Encino, and historians have suggested that the village observed by the Spaniards was in fact Siutcanga. In

the mid-1980s, archaeological investigations in Encino at the intersection of Ventura and Balboa Boulevards revealed evidence of a large village site (CA-LAN-43) that may have been Siutcanga. The site is situated on an ancient streambed and included a cemetery with both human and animal burials. Radiocarbon testing dated the site to as early as 5,000 B.C. Most of this site has since been destroyed by development (McCawley 1996).

The Tongva subsistence economy was centered on gathering and hunting. The surrounding environment was rich and varied, and the tribe exploited mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. Like that of most native Californians, acorns were the staple food (an established industry by the time of the early Intermediate Period). Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora (e.g., islay, cactus, yucca, sages, and agave). Fresh water and saltwater fish, shellfish, birds, reptiles, and insects, as well as large and small mammals, were also consumed (Bean and Smith 1978:546; Kroeber 1925; McCawley 1996).

A wide variety of tools and implements were used by the Tongva to gather and collect food resources. These included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Groups residing near the ocean used oceangoing plank canoes and tule balsa canoes for fishing, travel, and trade between the mainland and the Channel Islands (McCawley 1996).

Tongva people processed food with a variety of tools, including hammerstones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels (Blackburn 1963; Kroeber 1925; McCawley 1996).

At the time of Spanish contact, the basis of Tongva religious life was the Chinigchinich cult, centered on the last of a series of heroic mythological figures. Chinigchinich gave instruction on laws and institutions, and also taught the people how to dance, the primary religious act for this society. He later withdrew into heaven, where he rewarded the faithful and punished those who disobeyed his laws (Kroeber 1925). The Chinigchinich religion seems to have been relatively new when the Spanish arrived. It was spreading south into the Southern Takic groups even as Christian missions were being built and may represent a mixture of native and Christian belief and practices (McCawley 1996).

Deceased Tongva were either buried or cremated, with inhumation more common on the Channel Islands and the neighboring mainland coast and cremation predominating on the remainder of the coast and in the interior (Harrington 1942; McCawley 1996). Cremation ashes have been found in archaeological contexts buried within stone bowls and in shell dishes (Ashby

and Winterbourne 1966), as well as scattered among broken ground stone implements (Cleland et al. 2007). Archaeological data such as these correspond with ethnographic descriptions of an elaborate mourning ceremony that included a wide variety of offerings, including seeds, stone grinding tools, otter skins, baskets, wood tools, shell beads, bone and shell ornaments, and projectile points and knives. Offerings varied with the sex and status of the deceased (Johnston 1962; McCawley 1996; Reid 1926). At the behest of the Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996).

2.2.3 Historic Overview

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

2.2.3.1 Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California,

Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Father Crespi named "the campsite by the river Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002).

2.2.3.2 Mexican Period (1822–1848)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. Nine ranchos were granted between 1837 and 1846 in the future Orange County (Middlebrook 2005). Among the first ranchos deeded within the future Orange County were Manuel Nieto's Rancho Las Bolsas (partially in future Los Angeles County), granted by Spanish Governor Pedro Fages in 1784, and the Rancho Santiago de Santa Ana, granted by Governor José Joaquín Arrillaga to José Antonio Yorba and Juan Pablo Peralta in 1810 (Hallan-Gibson 1986). The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising

California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

2.2.3.3 American Period (1848–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005).

2.2.3.4 City of Los Angeles

In 1781, a group of 11 Mexican families traveled from Mission San Gabriel Arcángel to establish a new pueblo called El Pueblo de la Reyna de Los Angeles (The Pueblo of the Queen of the Angels). This settlement consisted of a small group of adobe-brick houses and streets and would eventually be known as the Ciudad de Los Angeles (City of Angels), which incorporated on April 4, 1850, only two years after the Mexican-American War and five months prior to California achieving statehood. Settlement of the Los Angeles region continued in the early American Period. The County of Los Angeles was established on February 18, 1850, one of 27 counties established in the months prior to California acquiring official statehood in the United States. Many of the ranchos in the area now known as Los Angeles County remained intact after the United States took possession of California; however, a severe drought in the 1860s resulted in many of the ranchos being sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944). Nonetheless, ranching retained its importance, and by the late 1860s, Los Angeles was one of the top dairy production

centers in the country (Rolle 2003). By 1876, Los Angeles County reportedly had a population of 30,000 persons (Dumke 1944).

Los Angeles maintained its role as a regional business center and the development of citriculture in the late 1800s and early 1900s further strengthened this status (Caughey and Caughey 1977). These factors, combined with the expansion of port facilities and railroads throughout the region, contributed to the impact of the real estate boom of the 1880s on Los Angeles (Caughey and Caughey 1977; Dumke 1944).

By the late 1800s, government leaders recognized the need for water to sustain the growing population in the Los Angeles area. Irish immigrant William Mulholland personified the city's efforts for a stable water supply (Dumke 1944; Nadeau 1997). By 1913, the City of Los Angeles had purchased large tracts of land in the Owens Valley and Mulholland planned and completed the construction of the 240-mile aqueduct that brought the valley's water to the city (Nadeau 1997).

Los Angeles continued to grow in the twentieth century, in part due to the discovery of oil in the area and its strategic location as a wartime port. The county's mild climate and successful economy continued to draw new residents in the late 1900s, with much of the county transformed from ranches and farms into residential subdivisions surrounding commercial and industrial centers. Hollywood's development into the entertainment capital of the world and southern California's booming aerospace industry were key factors in the county's growth in the twentieth century.

2.3 Background Research

2.3.1 Literature Review

As part of the cultural resources study prepared for the Proposed Project, staff at the SCCIC conducted a CHRIS records search on March 28, 2016, for the Proposed Project site and surrounding 1 mile. This search included their collection of mapped prehistoric, historic, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, and ethnographic references. Additional consulted sources included historical maps of the Project area, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. Confidential Appendix A provides the confidential results of the records search and a bibliography of prior cultural resources studies.

2.3.1.1 Previous Technical Studies

The SCCIC records indicate that 20 cultural resources investigations have been conducted within 1 mile of the APE (Table 1). Of these, only one study has overlapped the APE (LA-04858). Smith prepared this Negative Archaeological Survey Report in 2000 in support of a California Department of Transportation project that proposed improvements to various on/off-ramps along SR-170 and one on-ramp along Interstate-5. Because the project area was entirely within the paved right-of-way, a pedestrian survey was not conducted. No historic or archaeological resources were identified within the project area as a result of the literature review. Given that SR-170 borders the eastern boundary of the APE, and that Smith's 2000 study was conducted entirely within paved travel way, a conclusion can be made that LA-04858 did not cover the APE after all.

Table 1
Previous Cultural Resource Investigations within 1 Mile of the APE

SCCIC Report Number	Title	Author	Year	Proximity to APE
LA-0160	Phase 1 Cultural Resources Survey Fiber Optic Cable Project Burbank to Santa Barbara, California, for US Sprint Communications Company	Dames and Moore	1988	Outside
LA-02645	Class 3 Cultural Resource Assessment of the Proposed Carpintera and Southern Re-routes, Santa Barbara, Ventura, and Los Angeles Counties, California	Peak and Associates, Inc.	1991	Outside
LA-02950	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Peak and Associates, Inc.	1992	Outside
LA-04847	Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number LA_209_A, County of Los Angeles, California	Duke, Curt	2000	Outside
LA-04858	Department of Transportation Negative Archaeological Survey Report: Cold Plane Existing Pavement on Various On/off-ramps on Route 170 and One On-ramp Route 5 with Rubberized Asphalt Concrete	Smith, Philomene	2000	Within
LA-05604	Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 699-03, County of Los Angeles, California	Duke, Curt	1999	Outside
LA-06471	Highway Project Off Route 170. Location 1 Is at Hollywood Bowl Drive, Location 2 Is in North Hollywood at Sherman Way Overcrossing	Sylvia, Barbara	2002	Outside
LA-06599	Historic Resource Evaluation Report Mason Avenue At-grade Crossing and Safety Improvements Project, Los Angeles City, California	Foster, John	2002	Outside

Table 1
Previous Cultural Resource Investigations within 1 Mile of the APE

SCCIC Report Number	Title	Author	Year	Proximity to APE
LA-07793	Records Search Results and Site Visit for Sprint Telecommunications Facility Candidate LA60X526A (Diamond Auto Parts) 7600 Laurel Canyon Boulevard, North Hollywood, Los Angeles County, California	Bonner, Wayne and Christeen Taniguchi	2004	Outside
LA-08254	Results of a Phase I Cultural Resources Investigation of the Proposed Los Angeles Department of Water and Power River Supply Conduit, Los Angeles County, California	McKenna, Jeanette	2004	Outside
LA-08255	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	Arrington, Cindy and Nancy Sikes	2006	Outside
LA-08301	Cultural Resources Record Search and Site Visit Results for T-Mobile Candidate SV01485B (McDonald's), 12919 Victory Boulevard, North Hollywood, Los Angeles County, California	Bonner, Wayne	2006	Outside
LA-09127	New Tower ("NT") Submission Packet FCC Form 620	Earth Touch, Inc.	2007	Outside
LA-10267	Cultural Resources Records Search and Site Visit Results for Clearwire Candidate CA-LOS5223 (LA223A), 12444 Victory Boulevard, North Hollywood, Los Angeles County, California	Bonner, Wayne	2009	Outside
LA-10756	A Cultural Resources Overview and Preliminary Assessment of the Pacoima/Panorama City Redevelopment Plan Amendment/Expansion Project Area, Los Angeles County, California	McKenna, Jeanette	2010	Outside
LA-11705	Cultural Resource Records Search and Site Survey, AT&T Site LAC209, North Hollywood, 12444 Victory Boulevard, North Hollywood, Los Angeles County, CA	Loftus, Shannon	2011	Outside
LA-11920	Facilities Improvement Project, Valley Community Clinic, 6801 Coldwater Canyon Ave., North Hollywood, Los Angeles County	Platoff, Paula	2012	Outside
LA-11969	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV00319A (VY319 Chow), 6829 Lankershim Boulevard, North Hollywood, Los Angeles County, California	Bonner, Wayne	2012	Outside
LA-12505	Draft Phase I Cultural Resources Assessment San Fernando Valley Water Recycling Project City of Los Angeles, California	Wallace James, Sara Dietler, and Linda Kry	2012	Outside
LA-12758	Los Angeles Department of Water and Power City Trunk Line Unit 3 Project, Phase I Cultural Resources Assessment	Vader, Michael and Madeleine Bray	2013	Outside

2.3.1.2 Previously Recorded Cultural Resources

According to the SCCIC records, there are no previously recorded cultural resources located within the APE. There are three previously recorded resources with 1 mile of the APE (Table 2). These resources consist of historic-era built environment resources including the San Fernando Valley Generating Plant (19-175325) and two 1960s commercial buildings (19-189989 and 19-190097). The San Fernando Valley Generating Plant, constructed in 1924, was found eligible for inclusion in the NRHP and listed in the CRHR. The commercial buildings do not qualify for the NRHP. These two properties were not assessed for eligibility under the CRHR or local register. Three additional unmapped built environment resources included in the California Historic Property Data File are also within 1 mile of the APE.

Table 2
Previously Recorded Cultural Resources within 1 Mile of the APE

Primary Number	Trinomial	Resource Description	NRHP Eligibility Status	Recorded By and Year	Proximity to APE
19-175325	—	Historic: San Fernando Valley Generating Plant	2S2	McAvoy, Christy 1994	Outside: 0.7 mile east
19-189989	—	Historic: Commercial Building	6Y	Loftus, Shannon 2011	Outside: 0.8 mile south
19-190097	—	Historic: Commercial Building	6Y	Crawford, K.A. 2012	Outside: 0.9 mile east
Unmapped Resources within 1 Mile of the APE Included in the California Historic Property Data File					
—	—	Historic: Residence	6U	Unknown 2009	Outside: 1 mile northeast
—	—	Historic: Residence	6U	Unknown 2004	Outside: 0.9 mile northeast
		Historic: Residence	6U	Unknown 2000	Outside: 0.8 mile west

2.3.2 Archival Map Review

In addition to research conducted through the SCCIC, Dudek also consulted historic maps and aerial photographs to further understand the development of the APE and surrounding neighborhood. Historic topographic maps of the APE were available for the following years: 1896, 1913, 1921, 1955, 1968, and 1987 (NETR 2016). Historic aerial photographs were available for the years 1952, 1953, 1964, 1967, 1972, 1978, 1980, 1989, 1994, 2003, 2004, 2005, 2009, 2010, and 2012 (NETR 2016). The 1896 and 1913 quadrangle 15' maps depict the APE and surrounding area within the San Fernando Valley as largely undeveloped. The predominant feature is the Tujunga Wash; a few east west thoroughfares are south of the APE; and there are

no structures in the vicinity of the APE. By 1921, the San Fernando Valley has started to develop. Several roads are plotted, and a grid is starting to take form. The 1952 and 1953 aerial photographs depict the APE as having been graded – the start of Valley Plaza Park (formerly named Victory Van Owen Park); the Central Branch Tujunga Wash appears to have been somewhat channelized; and the surrounding area is mixed agricultural/residential land. The 1955 Quadrangle map shows the community of North Hollywood West much as it looks today with the exception of SR-170. The 1964 historic aerial shows Victory Van Owen Park ballfields surrounding the APE; all of the agricultural land has been replaced by development. By 1967, all sides of the APE have been defined except for the east side, which remained undeveloped Tujunga Wash. The APE is clear of vegetation aside from a line of ornamentals bordering the west side of the treatment area. SR-170 is depicted on the 1968 Quadrangle map and appears fully developed on the 1972 historic aerial. By 1972, the APE parcel is fully defined. The LADWP well control house is visible on the 1978 aerial in the northern portion of the facilities site. By 1994, the APE is bordered by a row of ornamental vegetation, and LADWP surge chamber and control building is visible on the aerial photograph. The remaining historic aerial photographs through 2012 depict the APE as relatively unchanged since 1994.

2.4 Native American Coordination

2.4.1 NAHC Sacred Lands File Search

As part of the process of identifying cultural resources within or near the APE, the LADWP contacted the NAHC to request a review of the SLF. The NAHC emailed a response on October 6, 2015, which stated that the SLF search was completed with negative results. Because the SLF search does not include an exhaustive list of Native American cultural resources, the NAHC suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the APE. The NAHC provided the contact list along with the SLF search results. Documents related to the NAHC SLF search are included in Appendix B.

At the request of the LADWP, Dudek prepared and sent letters to each of the eight persons and entities on the contact list requesting information about cultural sites and resources in or near the APE. These letters, mailed on May 5, 2016, contained a brief description of the proposed undertaking, a summary of the SLF and SCCIC search results and survey results, and reference maps. Recipients were asked to reply within 30 days of receipt of the letter should they have any knowledge of cultural resources in the area.

Dudek has received five responses as of the submittal of this report. Table 3 provides a summary of the timetable of the initial Native American coordination and the responses to the initial

inquiry letters. Robert F. Dorame, Tribal Chair of the Gabrieliño Tongva Indians of California Tribal Council, and Sam Dunlap, Cultural Resources Director of the Gabrieliño/Tongva Nation, requested that Dudek re-send the initial inquiry letters via email. Dudek emailed the letters on June 10, 2016. Since Dudek did not get a response to the emails, Dudek presumes Mr. Dorame and Mr. Dunlap have no further comments on the proposed undertaking. Anthony Morales, Chairperson of the Gabrieleño/Tongva San Gabriel Band of Mission Indians, requested that a statement he dictated to Dudek Archaeologist Adriane Dorrler be included in the environmental documentation for the Proposed Project. The statement is included in Table 3. Rudy Ortega, Jr., President of the Fernandeño Tataviam Band of Mission Indians, requested formal consultation with the lead agency pursuant to AB 52. As AB 52 is part of the CEQA process between the lead agency and the Tribe, Dudek forwarded the request to the LADWP. John Valenzuela, Chairperson of the San Fernando Band of Mission Indians, stated that his ancestral territory was not within the Proposed Project site and that he has no further comment on the proposed undertaking. Dudek placed voicemail messages with the three additional contacts. The voicemail messages briefly summarized the Project description and location and requested that the individuals contact Ms. Dorrler should they have any concerns or comments about impacts to cultural resources from the proposed undertaking. Ms. Dorrler has received no additional responses at the time of submittal of this report. Native American correspondence documents are included in Appendix B.

Table 3
Initial Native American Tribal Outreach Conducted by Dudek

Name and Title	Tribe / Organization	Date of Tribal Outreach		Response Received?	Results of Follow-Up Phone Call Placed on 6/10/2016
		Date of Initial Letter	*Date of Initial Email*		
Linda Candelaria, Co-Chairperson	Gabrielino-Tongva Tribe	—	5/5/2016	No	Left voicemail
Robert F. Dorame, Tribal Chair/Cultural Resources	Gabrielino Tongva Indians of California Tribal Council	5/5/2016	—	No	Mr. Dorame requested that Dudek email him a copy of the initial letter. Mr. Dorame stated that if he does not reply to the email, he has no comment. Dudek emailed the letter on 6/10/2016. Dudek has not received a reply to date.

Table 3
Initial Native American Tribal Outreach Conducted by Dudek

Name and Title	Tribe / Organization	Date of Tribal Outreach		Response Received?	Results of Follow-Up Phone Call Placed on 6/10/2016
		Date of Initial Letter	*Date of Initial Email*		
Sam Dunlap, Cultural Resources Director	Gabrielino/Tongva Nation	5/5/2016	—	No	Mr. Dunlap requested that Dudek email him a copy of the initial letter. Dudek emailed the letter on 6/10/2016. Dudek has not received a reply to date.
Anthony Morales, Chairperson	Gabrieleno/Tongva San Gabriel Band of Mission Indians	5/5/2016	—	No	Mr. Morales requested his below statement be included in the report: Perhaps this Project should warrant due diligence with cultural resources. The Project is within a sensitive area and warrants participation from Native American and even archaeologist because of the cultural landscape.
Rosemary Morillo, Chairperson	Soboba Band of Mission Indians	5/5/2016	—	No	Left voicemail
Rudy Ortega, Jr., President	Fernandeno Tataviam Band of Mission Indians	5/5/2016	—	Yes; Email response received 5/12/16	No follow-up communication required as Mr. Ortega, Jr. responded to the initial inquiry letter.
Andrew Salas, Chairperson	Gabrieleno Band of Mission Indians – Kizh Nation	5/5/2016	—	No	Left voicemail
John Valenzuela, Chairperson	San Fernando Band of Mission Indians	5/5/2016	—	No	Mr. Valenzuela stated that the Project site was not in his Tribe's area and that he had no comment.

2.4.2 Assembly Bill 52

The Proposed Project is subject to compliance with AB 52 (PRC 21074) which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process, and requires the CEQA lead agency to notify any groups (who have requested notification) of the Proposed Project who are traditionally or culturally affiliated with the geographic area of the Project. While the LADWP has yet to receive any requests from tribes for formal notification of specific

projects, they reached out to all groups listed on the NAHC's Tribal Consultation List in a good faith effort to provide notification of the Proposed Project. As a result of the AB 52 notification, one tribe, the Fernandeño Tataviam Band of Mission Indians, requested consultation with the lead agency. This consultation has concluded to the satisfaction of both parties. Because AB 52 is a government-to-government process, all records of correspondence related to AB 52 notification and any subsequent consultation are confidential, but on file with the LADWP.

3 METHODS

3.1 Class III Intensive Field Survey

Dudek Archaeologist Adriane Dorrler conducted the intensive-level archaeological survey of the APE on April 13, 2016, using a methodology consistent with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716). The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects spaced no more than 15 meters apart over the entire APE. Within each transect, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

Ms. Dorrler took detailed notes and photographs of the APE and surroundings. All fieldwork was documented using field notes, digital photography, iPad technology with close-scale field maps, and aerial photographs. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with 8 MP resolution and georeferenced PDF maps of the APE. Accuracy of this device ranged between 3 meters and 10 meters. All field notes, photographs, and records related to the cultural resources pedestrian survey are on file at Dudek's Riverside, California office.

4 RESULTS

4.1 Class III Intensive Field Survey

No cultural resources were identified within the APE as a result of the pedestrian survey. Ground visibility is moderate (>50%) throughout the APE with ruderal grassland vegetation covering all areas outside of the gravel roadways. The exposed sediment appears native, although highly disturbed. Observed sediment consists of loosely consolidated sand and gravel, which is consistent with sediments expected from an alluvial wash.

The APE is considered predominantly disturbed land with partially developed features. The APE has been previously graded to support the NHW well field facilities and infrastructure. The APE is entirely enclosed in chain link fence. Mature ornamental vegetation lines the interior perimeter of the fencing. A landscaping irrigation system supports the ornamentals. Two gravel access roads, one originating from Whitsett Avenue at the northwest corner of the APE and the other beginning at the terminus of the paved entrance to the facility from Vanowen Street at the southern end of the APE, conjoin into disturbed open space in the middle of the facilities site. Miscellaneous piping and piles of mulch are staged in the northeast corner of the facilities site. Several large displaced granitic boulders have been pushed next to the mulch piles and underneath a mature eucalyptus tree within the western portion of the facilities site. The boulders were inspected for any evidence of milling; none was found. Refuse from transient camps is littered throughout the ornamental growth.

Developed land refers to highly modified lands that support man-made structures. Areas of developed land within the APE include the paved entrance, parking lot, and facility entrance gate at the southern end of the APE off Vanowen Street; the six wellheads; and the well control house with an associated outlying generator. A chain link fence encloses each of the individual wellheads and the well control house/generator.

The well control house is a simple rectangular brick structure with a hip roof composed of insulated tiles. The single entryway is on the west face. As previously discussed, the fully constructed structure is depicted on the 1978 historic aerial photograph. Dudek consulted with LADWP to identify the built date of the structure to determine if it would require a significance evaluation. Engineering plans for the structure confirmed that the well control house was constructed in 1973. Additionally, historic aerial photographs confirm that the surge chamber and control building was constructed between 1989 and 1994. No further cultural resource considerations were necessary for these buildings since they are less than 45 years old, and there is nothing to indicate that they are of exceptional importance.

5 PROJECT EFFECTS/IMPACTS ASSESSMENT

Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties, assess the effects, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 CFR 800.1[a]). No cultural resources have been identified within the Project APE. Therefore no known historic properties will be affected by the proposed undertaking. No known historic properties were identified within a 0.7-mile radius of the APE. Therefore no known historic properties will be affected by indirect impacts of the proposed undertaking. As a result of the negative literature review and survey, the disturbed nature of the APE, and the topographical location of the APE within an alluvial wash, the proposed undertaking has a finding of "No Historic Properties Affected."

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Section 21084.1). If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]). No cultural resources have been identified within the Project site. Therefore no known historical resources will be impacted by the Proposed Project.

6 RECOMMENDATIONS

Due to the absence of cultural resources within the APE and the disturbed characteristic of the APE, no further management recommendations are necessary beyond standard measures to address unanticipated discoveries of cultural resources and human remains.

6.1 Unanticipated Discovery of Cultural Resources

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Proposed 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 and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

6.2 Unanticipated Discovery of 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 notified within 24 hours 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 County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the remains are determined to be Native American, the Coroner shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

7 REFERENCES

16 U.S.C. 470–470x-6. National Historic Preservation Act of 1966, as amended.

36 CFR 60. National Register of Historic Places.

36 CFR 800.1–800.16 and Appendix A. Protection of Historic Properties.

48 FR 44720–44726. "The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act." April 24, 1998.

Ashby, G. E., and J. W. Winterbourne. 1966. A Study of Primitive Man in Orange County and Some of its Coastal Areas. *Pacific Coast Archaeological Society Quarterly* 2(1):3-52.

Bancroft, Hubert Howe. 1885. *History of California, Volume III: 1825-1840*. A.L. Bancroft & Co., San Francisco.

Bean, Lowell J., and Charles R. Smith. 1978. Gabrielino. In *California,* edited by Robert F. Heizer, pp. 538–549. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Blackburn, Thomas. 1963. *Ethnohistoric Descriptions of Gabrielino Material Culture*. Annual Report, Archaeological Survey. University of California, Los Angeles.

Byrd, Brian F., and L. Mark Raab. 2007. Prehistory of the Southern Bight: Models for a New Millennium. In *California Prehistory*, edited by Terry L. Jones and Kathryn A. Klar, pp. 215-228. Altimira Press, New York.

Caughey, John, and LaRee Caughey. 1977. *Los Angeles: Biography of a City.* University of California Press, Berkeley.

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Electronic document: http://www.environmentla.org/programs/Thresholds/Complete%20Threshold%20Guide%202006.pdf. Accessed May 5, 2016.

City of Los Angeles. 2015. Parcel Profile Report. Created July 21, 2015. http://navigatela.lacity.org/navigatela/.

Cleland, James H., Andrew L. York, and Lorraine M. Willey. 2007. *Piecing Together the Prehistory of Landing Hill: A Place Remembered.* EDAW Cultural Publications No. 3. EDAW, Inc., San Diego.

Cleland, Robert Glass. 2005. *The Cattle on a Thousand Hills: Southern California, 1850-80,* second ed., sixth printing. The Huntington Library, San Marino, California.

Cottrell, Marie, and Kathleen Del Chario. 1981. *Archaeological Investigations of the Tomato Springs Sites.* Report on file, South Central Coastal Information Center, California State University, Fullerton.

Dallas, S. F. 1955. *The Hide and Tallow Trade in Alta California 1822–1848*. Ph.D. dissertation, Indiana University, Bloomington.

de Barros, Philip. 1996. *San Joaquin Hills Transportation Corridor: Results of Testing and Data Recovery at CA-ORA-1357.* Report on file, South Central Coastal Information Center, California State University, Fullerton.

Demcak, Carol R. 1981. Fused Shale As a Time Marker in Southern California: Review and Hypothesis. Unpublished Master's Thesis, Department of Anthropology, California State University, Long Beach.

Dillon, Brian D. 2002. California Paleo-Indians: Lack of Evidence, or Evidence of a Lack? In *Essays in California Archaeology: A Memorial to Franklin Fenenga,* edited by William J. Wallace and Francis A. Riddell, pp. 110–128. Contributions of the University of California Archaeological Research Facility, No. 60, Berkeley.

Dixon, E. James. 1968. Cogged Stones and Other Ceremonial Cache Artifacts in Stratigraphic Context at ORA-58, a Site in the Lower Santa Ana River Drainage, Orange County. *Pacific Coast Archaeological Society Quarterly* 4(3):57–68.

Drover, Christopher E.1971. Three Fired-Clay Figurines from 4-Ora-64, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 7(4):73–86.

Drover, Christopher E. 1975. Early Ceramics from Southern California. *The Journal of California Anthropology* 2(1):101–107.

Drover, Christopher E., Henry C. Koerper, and Paul E. Langenwalter II. 1983. Early Holocene Adaptation on the Southern California Coast: A Summary Report of Investigations at the Irvine Site (CA-ORA-64), Newport Bay, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 19(2, 3):1–84.

Dumke, Glenn S. 1944. *The Boom of the Eighties in Southern California.* Huntington Library Publications, San Marino, California.

Eberhart, Hal. 1961. The Cogged Stones of Southern California. *American Antiquity* 26:361–370.

Erlandson, Jon M. 1991. Early Maritime Adaptations on the Northern Channel Islands. In *Hunter-Gatherers of Early Holocene Coastal California,* edited by J. M. Erlandson and R. Colten. Perspectives in California Archaeology, Vol. 1. Institute of Archaeology, University of California, Los Angeles.

Erlandson, Jon M., Theodore Cooley, and Richard Carrico. 1987. A Fluted Projectile Point Fragment from the Southern California Coast: Chronology and Context at CA-SBA-1951. *Journal of California and Great Basin Anthropology* 9:120–128.

Glassow, Michael A. 1997. Middle Holocene Cultural Development in the Central Santa Barbara Channel Region. In *Archaeology of the California Coast during the Middle Holocene*, edited by J. M. Erlandson and M. A. Glassow, pp.73–90. Perspectives in California Archaeology, Vol. 4. Institute of Archaeology, University of California, Los Angeles.

Glassow, Michael A., L. Wilcoxen, and J. M. Erlandson. 1988. Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In *The Archaeology of Prehistoric Coastlines*, edited by G. Bailey and J. Parkington pp. 64–77. Cambridge University Press, Cambridge.

Grenda, Donn R. 1995. *Prehistoric Game Monitoring on the Banks of Mill Creek: Data Recovery at CA-RIV-2804, Prado Basin, Riverside County, California.* Statistical Research Technical Series No. 52. Statistical Research, Inc., Tucson, Arizona.

Grenda, Donn R. 1997. *Continuity and Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore*. Statistical Research Technical Series No. 59. Statistical Research, Inc., Tucson, Arizona.

Gumprecht, Blake. 1999. *The Los Angeles River: Its Life, Death, and Possible Rebirth*. The Johns Hopkins University Press, Baltimore, Maryland.

Hall, Matthew C. 1988. For the Record: Notes and Comments on "Obsidian Exchange in Prehistoric Orange County." *Pacific Coast Archaeological Society Quarterly* 24(4):34–48.

Hallan-Gibson, Pamela 1986. *Orange County—The Golden Promise an Illustrated History.* Windsor Publications, Northridge, California.

Harrington, John P. 1942. Culture Element Distributions: XIX, Central California Coast. *Anthropological Records* 7:1. University of California Press: Berkeley.

Heizer, Robert F. 1978. Introduction. In *California,* edited by Robert F. Heizer, pp. 1–6. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Herring, Alika. 1968. Surface Collections from ORA-83, A Cogged Stone Site at Bolsa Chica, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 4(3):3–37.

Johnson, J. R., T. W. Stafford, Jr., H. O. Ajie, and D. P. Morris. 2002. Arlington Springs Revisited. In *Proceedings of the Fifth California Islands Symposium,* edited by D. Browne, K. Mitchell, and H. Chaney, pp. 541–545. USDI Minerals Management Service and The Santa Barbara Museum of Natural History, Santa Barbara, California.

Johnston, Bernice E. 1962. *California's Gabrielino Indians.* Frederick Webb Hodge Anniversary Publication Fund 8, Southwest Museum, Los Angeles.

Jones, Terry L., Richard T. Fitzgerald, Douglas J. Kennett, Charles Miksicek, John L. Fagan, John Sharp, and Jon M. Erlandson. 2002. The Cross Creek Site and Its Implications for New World Colonization. *American Antiquity* 67:213–230.

King, Chester D. 1994. *Native American Placenames in the Santa Monica Mountains National Recreation Area, Agoura Hills.* Topanga Anthropological Consultants, California.

Koerper, Henry C. 1995. *The Christ College Project: Archaeological Investigations at CA-ORA-378, Turtle Rock, Irvine, California,* Volume II. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Koerper, Henry C., and Christopher E. Drover.1983. Chronology Building for Coastal Orange County: The Case from CA-ORA-119-A. *Pacific Coast Archaeological Society Quarterly* 19(2):1–34.

Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. Complexity, Demography, and Change in Late Holocene Orange County. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon M. Erlandson and Terry L. Jones, pp. 63–81. Perspectives in California Archaeology, Vol. 6, Costen Institute of Archaeology, University of California, Los Angeles.

Kowta, Makoto. 1969. The Sayles Complex, A Late Milling Stone Assemblage from the Cajon Pass and the Ecological Implications of its Scraper Planes. *University of California Publications in Anthropology* 6:35–69. Berkeley, California.

Kroeber, Alfred J. 1925. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Dover Publications, Inc., New York.

Kyle, Douglas E. 2002. *Historic Spots in California*. 5th ed. Stanford University Press, Stanford, California.

Langenwalter, Paul E., II, and James Brock. 1985. *Phase II Archaeological Studies of the Prado Basin and the Lower Santa Ana River.* Report on file, U.S. Army Corps of Engineers, Los Angeles District.

Macko, Michael E. 1998a. The Muddy Canyon Archaeological Project: Results of Phase II Test Excavations and Phase III Data Recovery Excavations at Archaeological Sites within the Crystal Cove Planned Community, Phase IV, Tentative Tract 15447, San Joaquin Hills, Orange County, California. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Macko, Michael E. 1998b. Neolithic Newport. In Executive Summary: Results of Implementing Mitigation Measures Specified in the Operation Plan and Research Design for the Proposed Newporter North Residential Development at ORA-64. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Mason, Roger E., Brant A. Brechbiel, Mark L. Peterson, Clay A. Singer, Paul E. Langenwalter II, and Robert O. Gibson. 1991. Newport Coast Archaeological Project: Results of Data Recovery at the Late Small Rockshelters, CA-ORA-674, CA-ORA-677, CA-ORA-678, CA-ORA-1206, CA-ORA-1210, CA-ORA-676, CA-ORA-682, CA-ORA-679, and CA-ORA-1204. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Mason, Roger D., Brant A. Brechbiel, Clay A. Singer, Patricia A. Singer, Wayne H. Bonner, Robert O. Gibson, Mark L. Peterson, and Lisa Panet Klug. 1992. Newport Coast Archaeological Project: Results of Data Recovery at the French Flat Complex Sites, CA-ORA-232, CA-ORA-233, CA-ORA-671, CA-ORA-672, and CA-ORA-1205. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Mason, Roger D., Brant A. Brechbiel, Clay A. Singer, Mark L. Peterson, Linda Panet Klug, Wayne H. Bonner, Robert O. Gibson, and Patricia A. Singer. 1993. Newport Coast Archaeological Project: Results of Data Recovery at the Pelican Hills Sites, CA-ORA-662, CA-ORA-677, CA-ORA-678, CA-ORA-1206, CA-ORA-1210, CA-ORA-676 and CA-ORA-1203, Volume 1. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Mason, Roger D., and Mark L. Peterson. 1994. Newport Coast Archaeological Project: Newport Coast Settlement Systems–Analysis and Discussion, Volume 1, part 1 of 2. Prepared by The Keith Companies. On file, South Central Coastal Information Center, California State University, Fullerton.

Mason, Roger D., Henry C. Koerper, and Paul E. Lagenwalter II. 1997. Middle Holocene adaptations on the Newport Coast of Orange County. In Archaeology of the California Coast during the Middle Holocene, edited by Jon M. Erlandson and Michael A. Glassow, pp. 35–60. UCLA Institute of Archaeology, Los Angeles, California.

McCawley, W. 1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Malki Museum Press, Banning California and Ballena Press, Novato, California.

Meighan, Clement W. 1954. A Late Complex in Southern California Prehistory. Southwestern Journal of Anthropology 10(2):215–227.

Middlebrook, John-Robin. 2005. History of Orange County, California. Electronic document, http://www.legendsofamerica.com/CA-OrangeCounty.html.

Moratto, Michael J. 1984. *California Archaeology*. Academic Press, New York.

Moriarty, James R., III. 1966. Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *The Anthropological Journal of Canada* 4(4):20–30.

Moriarty, James R., III, and Robert S.D. Broms. 1971. The Antiquity and Inferred Use of Stone Discoidals in the Southwest. *The Anthropological Journal of Canada* 9(1):16–36.

Nadeau, Remi. 1997. *The Water Seekers.* Revised 4th ed. Crest Publishers, Santa Barbara, California.

NETR (National Environmental Title Research, LLC). 2016. Historic Aerials. Accessed May 9, 2016. http://www.historicaerials.com/.

Office of Historic Preservation. 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

O'Neil, Stephen. 2002. The Acjachemen in the Franciscan Mission System: Demographic Collapse and Social Change. Masters thesis, Department of Anthropology, California State University, Fullerton.

Reid, Hugo. 1926. *The Indians of Los Angeles County.* Privately printed, Los Angeles.

Rick, Torben C., Jon M. Erlandson, and René Vellanoweth. 2001. Paleocoastal Marine Fishing on the Pacific Coast of the Americas: Perspectives from Daisy Cave, California. American *Antiquity* 66:595–613.

Rogers, David B. 1929. *Prehistoric Man of the Santa Barbara Coast*. Santa Barbara Museum of Natural History, Santa Barbara, California. Edited by Richard F. Pourade. Union Tribune Publishing Company, San Diego, California.

Rogers, Malcom J. 1939. Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. *San Diego Museum of Man Papers* 3.

Rogers, Malcom J. 1945. An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1(2):167–198.

Sawyer, William A. 2006. Report of Testing and Data Recovery at Sites within the Muddy Canyon Archaeological District, San Joaquin Hills, Orange County, California (provisional title). LSA Associates, Inc., Irvine, California.

Sawyer, William A., and James Brock. 1999. *Archaeology of Foothill Ranch, El Toro, California*. Report on file, South Central Coastal Information Center, California State University, Fullerton.

Sawyer, William A., and Henry C. Koerper. 2006. The San Joaquin Hills Venus: A Ceramic Figurine from CA-ORA-1405-B. In *Contributions from Orange County Presented in Remembrance of John Peabody Harrington*, edited by Henry C. Koerper, pp. 13–34. *Coyote Press Archives of California Prehistory*, Number 53. Coyote Press, Salinas, California.

Shipley, William F. 1978. Native Languages of California. In *California*, edited by Robert F. Heizer, pp. 80–90. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Smith, Philomene C. 2000. *Negative Archaeological Survey Report to Cold Plane the Existing Pavement on Various on/off-ramps on Route 170 and one on-ramp on Route 5*. Report on file at the South Central Coastal Information Center, California State University, Fullerton.

Strudwick, Ivan H. 2005. The Use of Fired Clay Daub from CA-ORA-269 in the Identification of Prehistoric Dwelling Construction Methods, San Joaquin Hills, Orange County, California. *Proceedings of the Society for California Archaeology* 18:219-237.

Sutton, Mark Q. 1993. On the Subsistence Ecology of the "Late Inland Millingstone Horizon" in Southern California. *Journal of California and Great Basin Anthropology* 15(1):134–140.

Taşkiran, Ayşe. 1997. Lithic Analysis. In *Hunting the Hunters: Archaeological Testing at CA-RIV-653 and CA-RIV-1098, Riverside County, California*, edited by Donn R. Grenda and Deborah W. Gray, pp. 41–53. Statistical Research Technical Series No. 65. Statistical Research, Inc., Tucson, Arizona.

Tinsley, John C. III. 2001. Aspects of the Quaternary Geology of the San Fernando Valley, California. Menlo Park, California. Electronic document: http://gsa.confex.com/gsa/2001CD/finalprogram/abstract_4017.htm, Accessed on May 5, 2016.

Towner, Ronald H., Keith B. Knoblock, and Alex V. Benitez. 1997. Flaked and Ground Stone Analyses. In *Continuity and Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore*, edited by Donn R. Grenda, pp. 167–248. Statistical Research Technical Series No. 59. Statistical Research, Inc., Tucson, Arizona.

True, Delbert L. 1958. An Early Complex in San Diego County, California. *American Antiquity* 23:255–263.

True, Delbert L. 1993. Bedrock Milling Elements as Indicators of Subsistence and Settlement Patterns in Northern San Diego County, California. *Pacific Coast Archaeological Society Quarterly* 29(2):1–26.

U.S. Geological Survey (USGS). 2005. USGS Response to an Urban Earthquake – Northridge '94. Electronic document: http://pubs.usgs.gov/of/1996/ofr-96-0263/geoset.htm, Accessed May 5, 2016.

Wallace, William.1955. Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214–230.

Wallace, William.1978. Post-Pleistocene Archaeology, 9000 to 2000 B.C. In *California*, edited by Robert F. Heizer, pp. 25–36. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Warren, Claude N. 1968. Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by Cynthia Irwin-Williams, pp. 1–14. Eastern New Mexico University Contributions in Anthropology No. 1. Portales.

Waugh, John C. 2003. On the Brink of Civil War: The Compromise of 1850 and How It Changed the Course of American History. Scholarly Resources Inc., Wilmington, Delaware.

Wilke, Philip J. 1974. The Peppertree Site (4-Riv-463). In *Perris Reservoir Archeology: Late Prehistoric Demographic Changes in Southeastern California*, edited by James F. O'Connell, Philip J. Wilke, Thomas F. King, and Carol L. Mix, pp. 49–63. California Department of Parks and Recreation Archeology Reports 14.

Wilke, Philip J. 1978. Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California. *Contributions of the University of California Archaeological Research Facility* No. 38.

APPENDIX A (CONFIDENTIAL)

SCCIC Records Search Results

APPENDIX B

NAHC Sacred Lands File Search
and
Native American Correspondence

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX

October 6, 2015

Nadia Parker
Los Angeles Department of Water & Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Sent by Email: Nadia.Parker@ladwp.com
Number of Pages: 3

RE: North Hollywood West Advanced Oxidation Process Water Treatment Project, Van Nuys USGS Quad, Los Angeles County

Dear Ms. Parker:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent above reference codes is to mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects.

As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

> 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. (Public Resources Code Section 21080.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include 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. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the 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 have already been recorded on or adjacent to the APE;
   - 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;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential 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 measurers.

     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 pubic disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A SFL search was completed with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. 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 case that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: rob.wood@nahc.ca.gov.

Sincerely,

Rob Wood
Associate Governmental Program Analyst

Native American Tribal Consultation List
Los Angeles County
October 6, 2015

Soboba Band of Mission Indians
Rosemary Morillo, Chairperson; Attn: Carrie Garcia
P.O. Box 487
San Jacinto , CA 92581
carrieg@soboba-nsn.gov
(951) 654-2765
Luiseno
Cahuilla

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100
Los Angeles , CA 90067
(626) 676-1184 Cell
Gabrielino

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street
San Fernando , CA 91340
(818) 837-0794 Office
Fernandeno
Tataviam

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina , CA 91723
gabrielenoindians@yahoo.com
(626) 926-4131
Gabrielino

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall , CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908
Los Angeles , CA 90086
samdunlap@earthlink.net
(909) 262-9351
Gabrielino Tongva

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell
Gabrielino Tongva

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower , CA 90707
gtongva@verizon.net
(562) 761-6417 Voice/Fax
Gabrielino Tongva

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 applicable only for consultation with Native American tribes under Government Code Sections 65352.3 and 65362.4 et seq.
North Hollywood West Advanced Oxidation Process Water Treatment Project, Van Nuys USGS Quadrangle, Los Angeles County.

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Ms. Linda Candelaria, Chairwoman
Gabrielino-Tongva Tribe
1999 Avenue of the Stars #1100
Los Angeles, CA 90067

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Ms. Candelaria:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information

Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

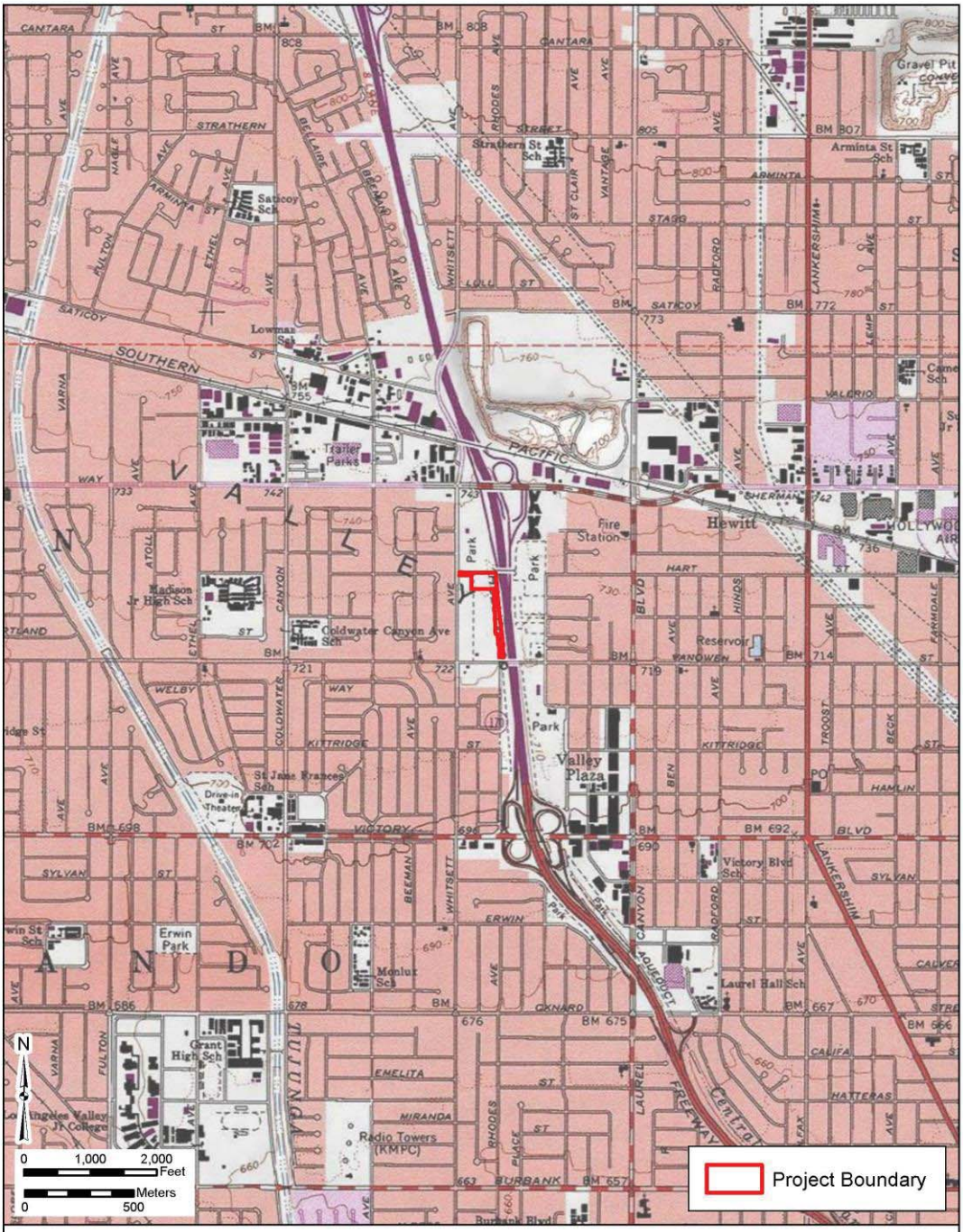
Sincerely,

A. Dorrler

_____

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*



SOURCE: USGS Topo 7.5 Minute Series - Van Nuys Quadrangles
Township 1N / Range 15W / Section 01

Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. Robert F. Dorame, Tribal Chair/Cultural Resources
Gabrieleno Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA 90707

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Dorame:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

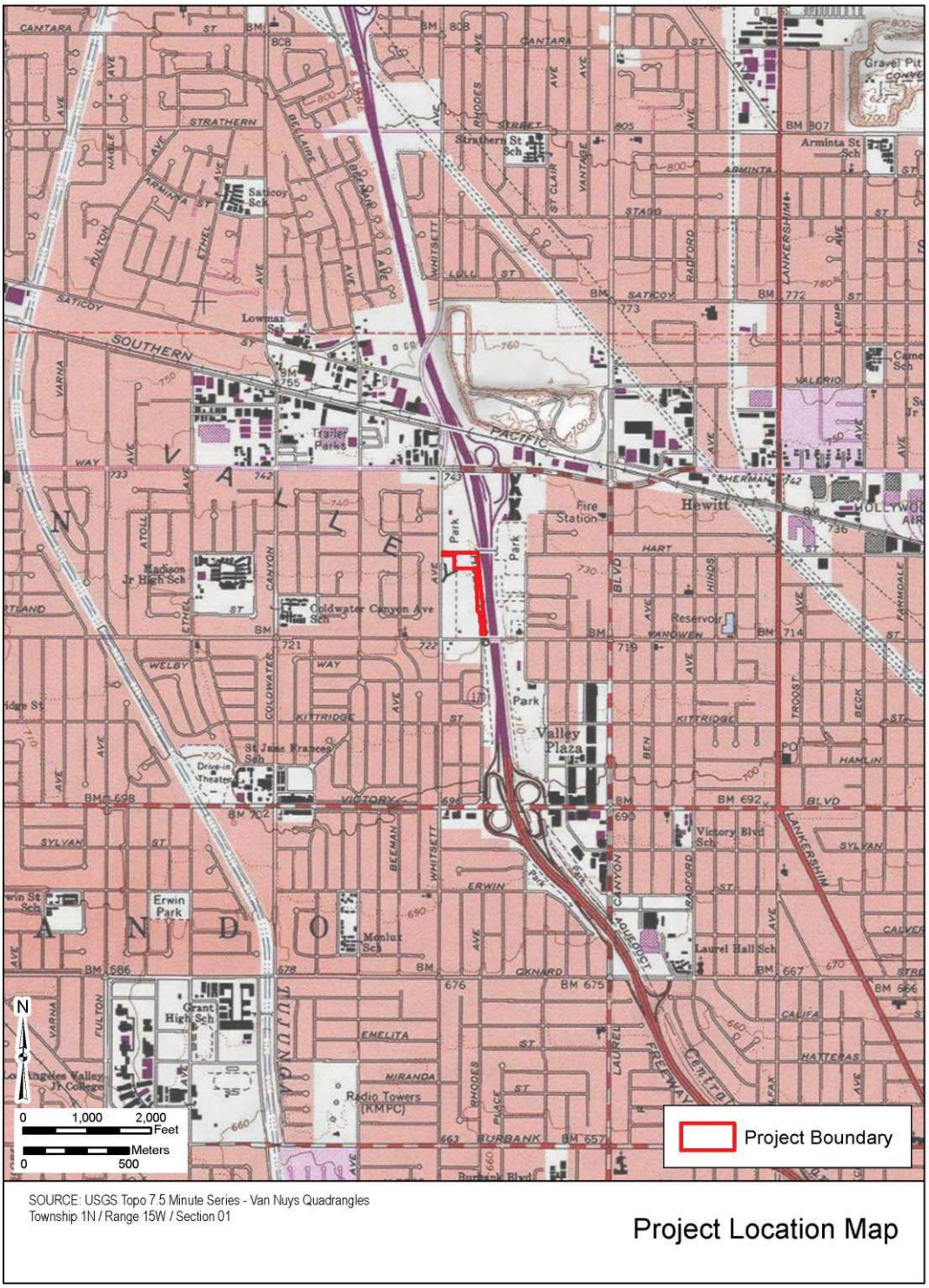
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*

Mr. Dorame:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. Sam Dunlap, Chairperson
Gabrieleno Tongva Nation
P.O. Box 86908
Los Angeles, CA 90086

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Dunlap:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

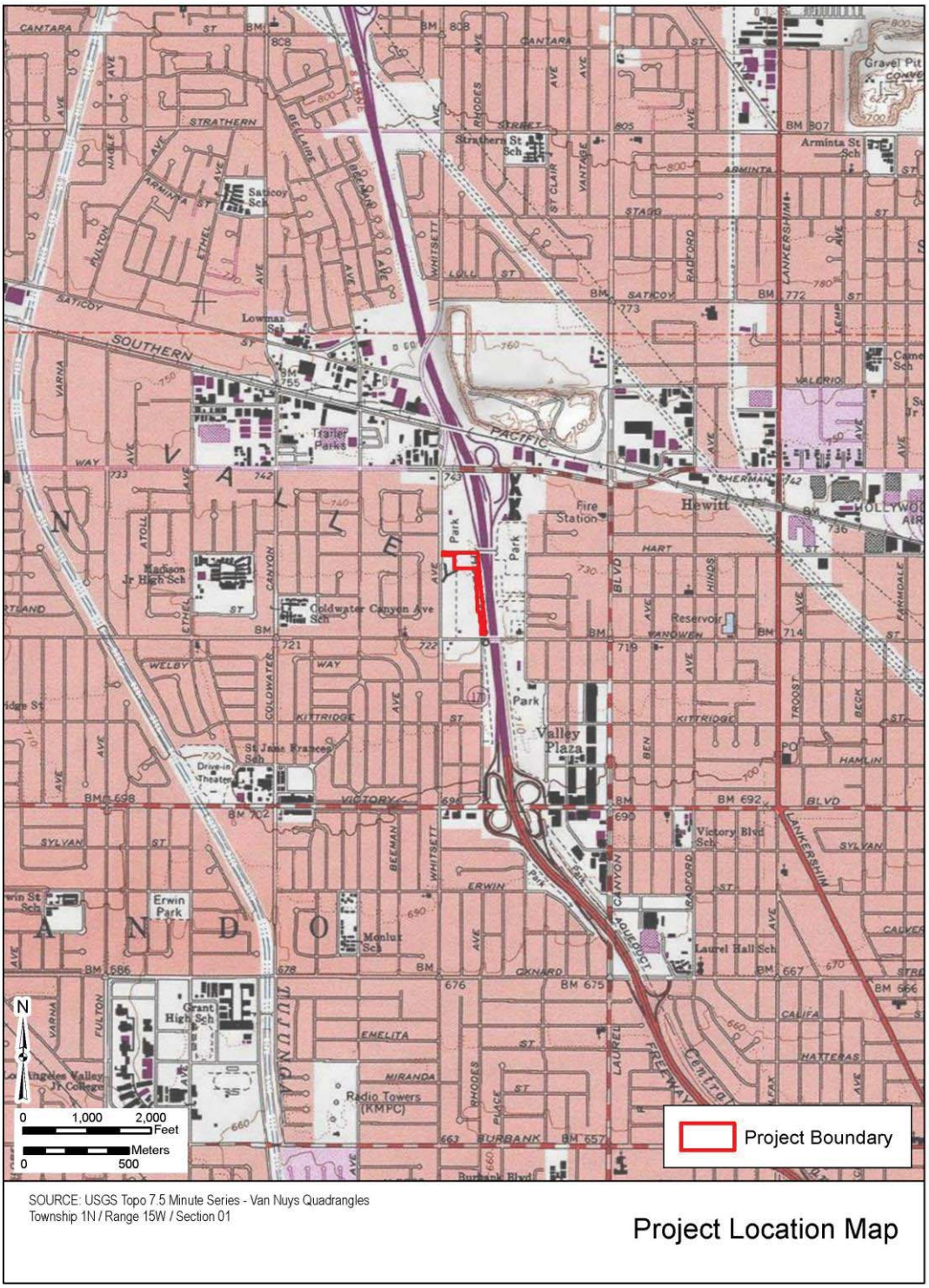
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*

Mr. Dunlap:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Morales:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

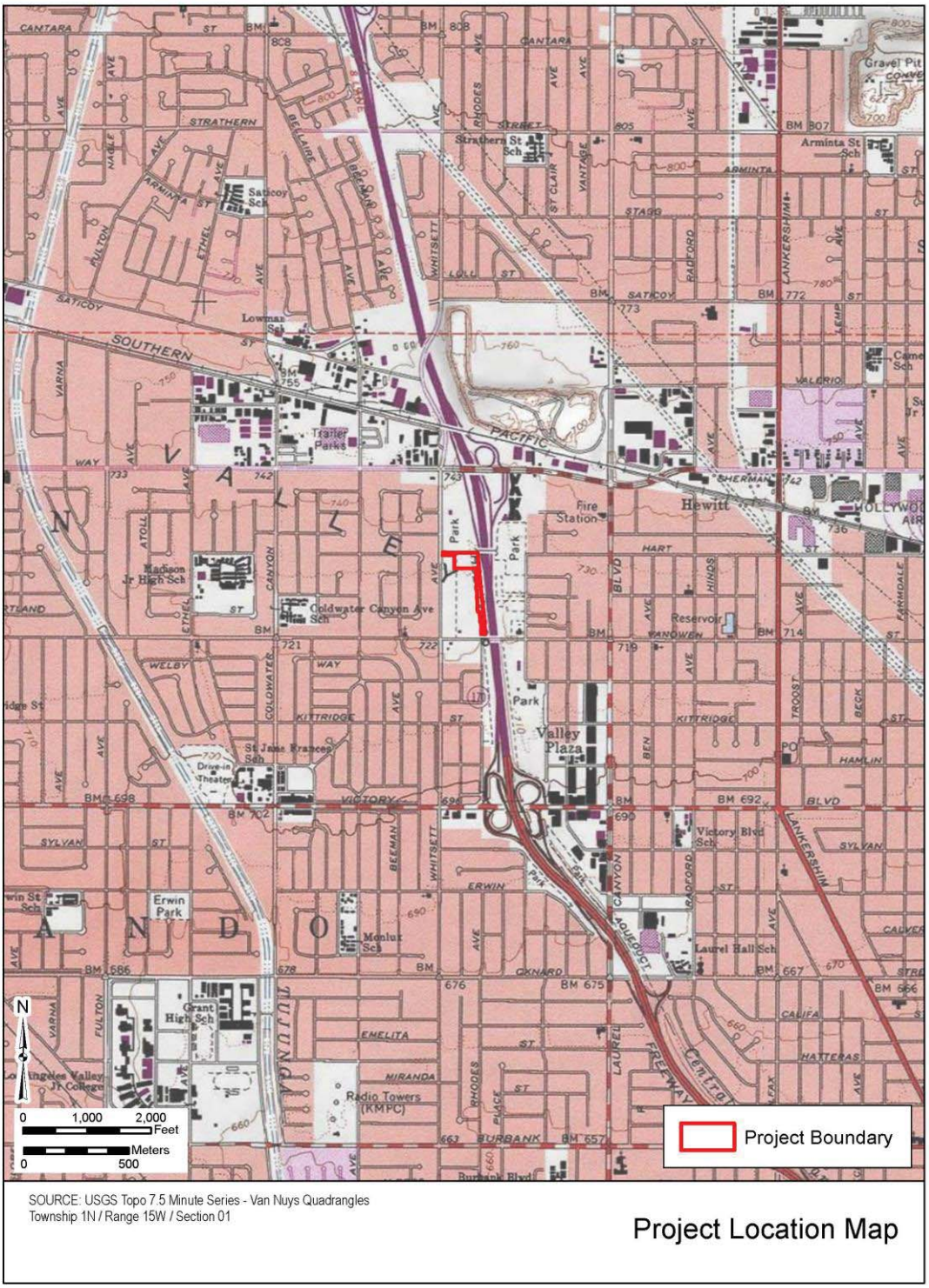
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

Mr. Morales:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Ms. Rosemary Morillo, Chairperson
Soboba Band of Mission Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Ms. Morillo:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

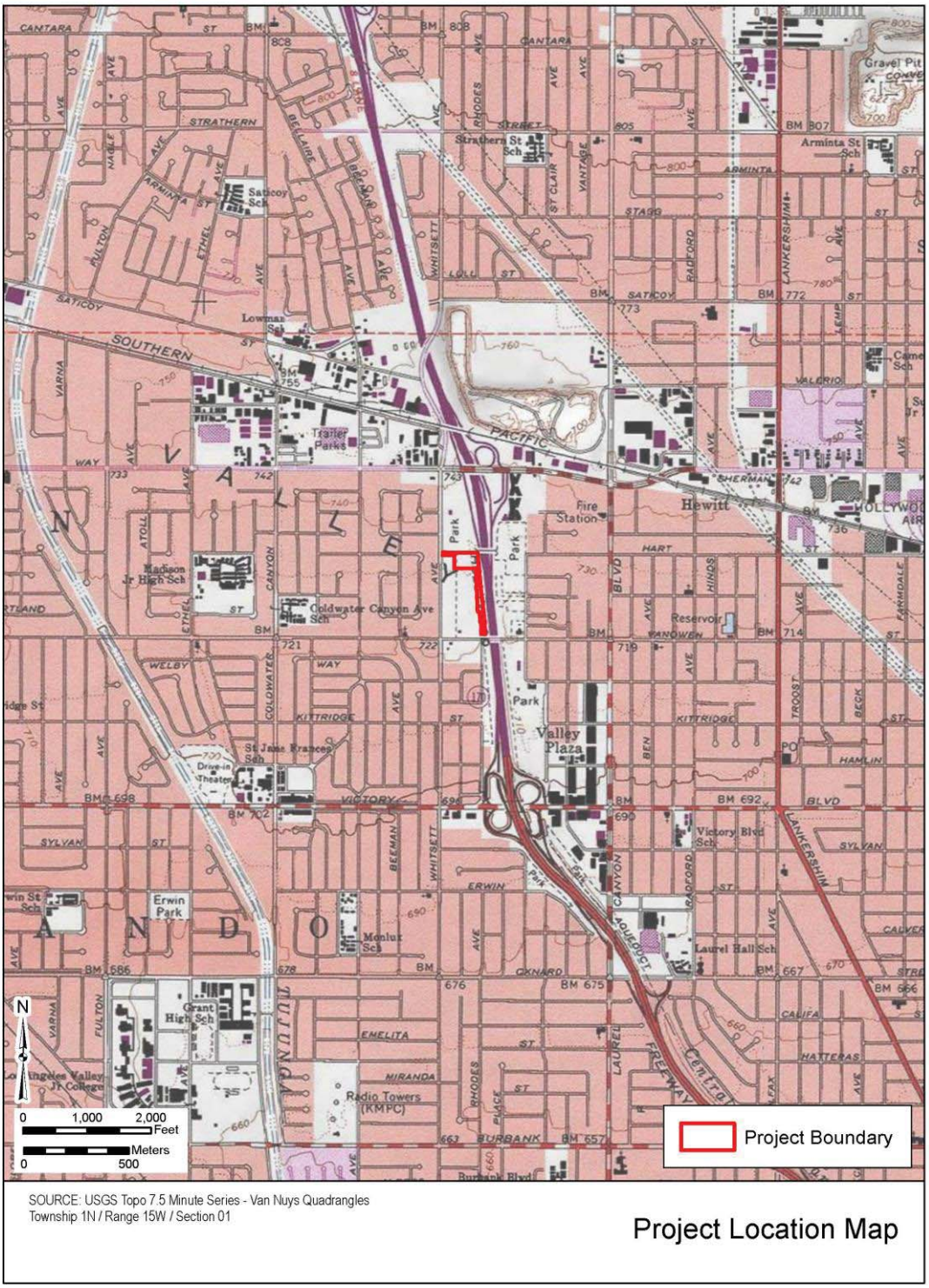
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*

Ms. Morillo:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. Rudy Ortega, Jr., President
Fernandeno Tataviam Band of Mission Indians
1019 2nd St. #1
San Fernando, CA 91340

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Ortega, Jr.:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

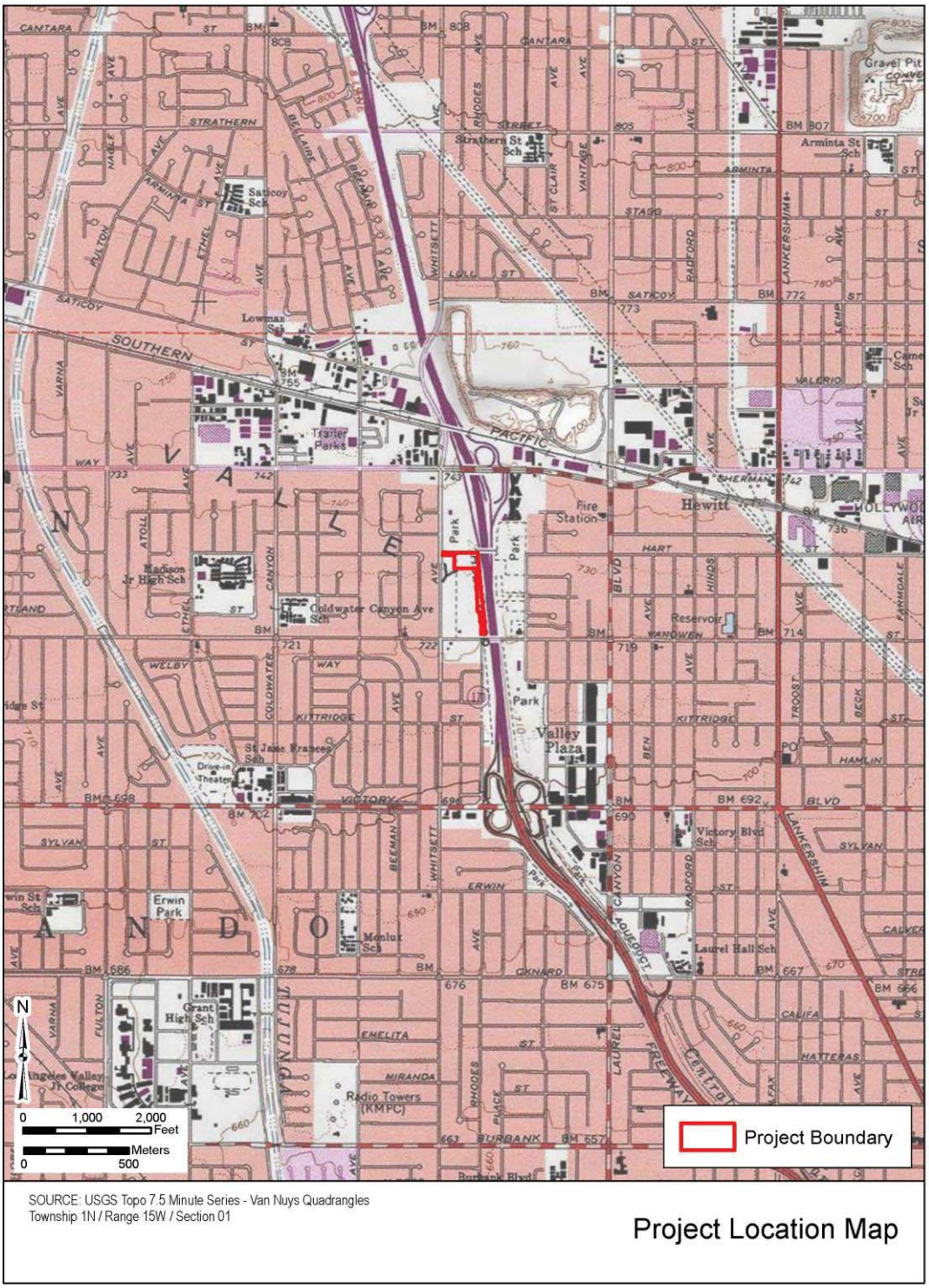
Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map


N
0 1,000 2,000 Feet
0 500 Meters
Project Boundary
SOURCE: USGS Topo 7.5 Minute Series - Van Nuys Quadrangles
Township 1N / Range 15W / Section 01
Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians
P.O. Box 393
Covina, CA 91723

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Salas:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

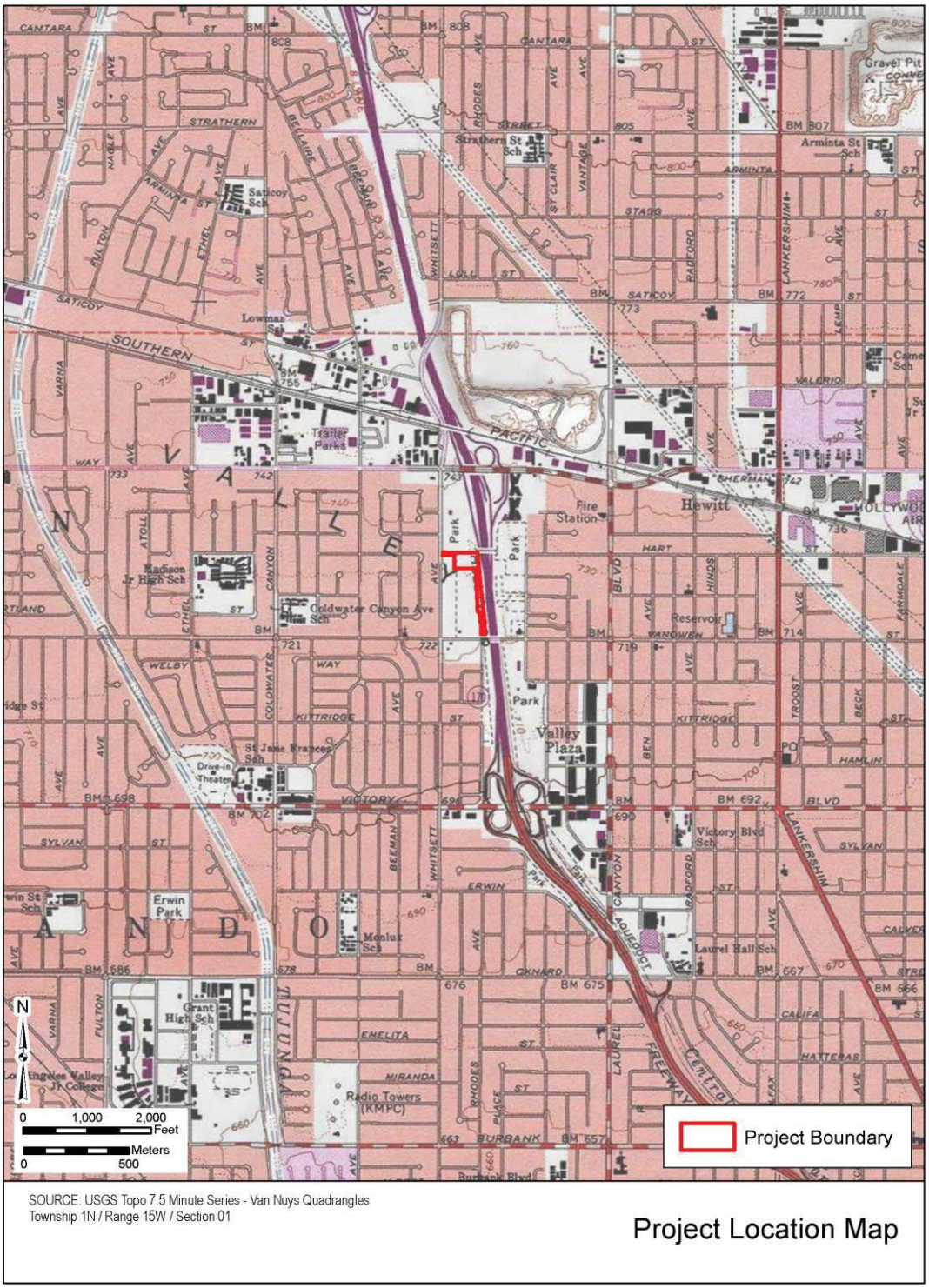
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

Mr. Salas:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

May 2, 2016 8584

Mr. John Valenzuela, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, CA 91322

Subject: ***North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California***

Dear Mr. Valenzuela:

The Los Angeles Department of Water and Power (LADWP) is preparing a Phase I cultural resources inventory for the proposed North Hollywood West Wellhead Treatment Project (proposed project), located in the City of Los Angeles (City), Los Angeles County, California. The proposed project would install water treatment equipment at the site of an existing groundwater production well field. The water treatment equipment would enable LADWP to restore the use of drinking water wells in the North Hollywood West groundwater production well field that have been compromised due to the threat of contamination. The project site is located within a property owned by LADWP within Valley Plaza Park, which is located in the community of North Hollywood in the City of Los Angeles (see the attached Project Location Map). The site currently contains a well control house, wellheads, and water distribution pipelines. Under the proposed project, water would be treated with an advanced oxidation process. Construction of the proposed project would involve ground disturbance on the project site, primarily associated with the installation of new underground piping, treatment equipment, and controls within the project site. The proposed project is situated in Section 1 of Township 1 North Range 15 West of the Van Nuys 7.5-minute U.S. Geological Survey (USGS) quadrangle map (attached map).

As part of the process of identifying cultural resources issues for this proposed project, LADWP contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project site. The SLF search failed to indicate the presence of Native American cultural resources in the immediate project area.

A California Historical Resources Information System (CHRIS) records search was conducted for the proposed project site and a one-mile radius at the South Central Coastal Information Center (SCCIC). The SCCIC has no record of prehistoric or historic archaeological sites within

the proposed project site. A cultural resources site survey was conducted by a qualified archaeologist, which yielded negative results.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project site, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 30 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Your tribe will be provided separate notification pursuant to AB 52.

Thank you for your assistance.

Sincerely,

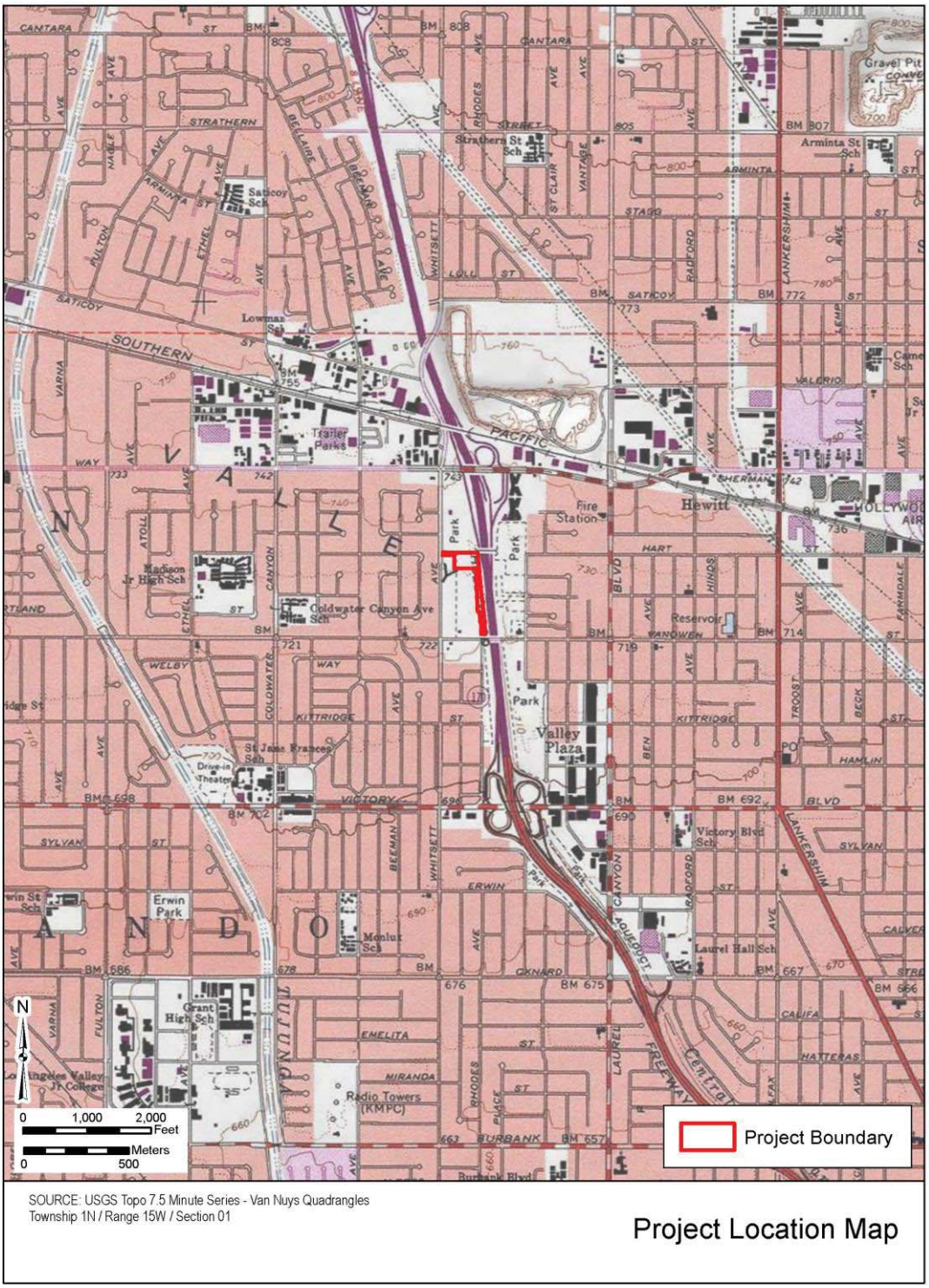
A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*

Mr. Valenzuela:

Subject: North Hollywood West Wellhead Treatment Project, City of Los Angeles, Los Angeles County, California



Rudy Ortega Jr.
Tribal President

Tribal Historic & Cultural Preservation Committee
Steve Ortega
Chairman
Arturo Paredes Jr.
David Ortega

Fernandeño Tataviam Band of Mission Indians
Tribal Historic & Cultural Preservation

May 12, 2016

Adriane Dorrler
Archaeologist

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subdivision (b), (d) and (e) for North Hollywood West Wellhead Treatment Project

Dear Adriane,

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)) for the mitigation of potential impacts to tribal cultural resources for the above referenced project (Project).

The Fernandeño Tataviam Band of Mission Indians requests that the lead agency forward to the contact below the estimated cubic yards of soil disturbance for the Project. Additional data may be requested from your agency. Please contact Caitlin Gulley with any questions or for additional information:

Caitlin Gulley, Director
Tribal Historic and Cultural Preservation Department
1019 Second St.
San Fernando, CA 91340

Sincerely,

Sedna Villavicencio
Tribal Historic and Cultural Preservation Department

Adriane Dorrler

From: Adriane Dorrler
Sent: Friday, June 10, 2016 12:06 PM
To: 'gtongva@verizon.net'
Subject: North Hollywood West AOP Project_Dudek
Attachments: NHW AOP_Info Request_Dorame.pdf

Hello Mr. Dorame,

Thank you for speaking with me this afternoon. As per your request, please find attached the request for information letter sent to you on May 5, 2016 by my firm. As discussed with you over the phone, the Native American Heritage Commission Sacred Lands File search, records search, and pedestrian survey conducted for this project were returned with negative results.

I appreciate you taking time to review the attached letter, especially since you are inundated with similar requests and the demands on your time are particularly great. I understand that if I do not hear from you, you have no comment on the proposed project.

Thank you again.

Regards,

Adriane Dorrler
Archaeologist

DUDEK
3544 University Avenue
Riverside, CA 92501

M 760.840.7556

www.dudek.com

Adriane Dorrler

From: Adriane Dorrler
Sent: Friday, June 10, 2016 12:23 PM
To: 'samdunlap@earthlink.net'
Subject: North Hollywood West AOP Project_Dudek
Attachments: NHW AOP_Info Request_Dunlap.pdf

Hello Mr. Dunlap,

Thank you for speaking with me this afternoon. As per your request, please find attached the request for information letter sent to you on May 5, 2016 by my firm for the North Hollywood West Wellhead Treatment project. The Native American Heritage Commission Sacred Lands File search, records search, and pedestrian survey conducted for this project were returned with negative results.

I appreciate you taking time to review the attached letter. I understand that if I do not hear from you, you have no comment on the proposed project.

Thank you again, and I hope you can continue to enjoy this nice cloudy weather while you are in the field.

Regards,

Adriane Dorrler
Archaeologist

DUDEK
3544 University Avenue
Riverside, CA 92501

M 760.840.7556

www.dudek.com