INITIAL STUDY

Van Norman Complex Routine Operation and Maintenance Program

PREPARED BY

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Environmental Affairs
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WITH ASSISTANCE FROM

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
AMM	Avoidance and Minimization Measure
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Los Angeles
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
Construction General Permit	General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
dB	decibel
dBA	A-weighted decibel
DTSC	California Department of Toxic Substance Control
GHG	greenhouse gas
GWP	global warming potential
I	Interstate
IRP	Power Integrated Resource Plan
LACM	Natural History Museum of Los Angeles
LADWP	Los Angeles Department of Water and Power
LAR	Los Angeles Reservoir
L_{eq}	energy equivalent noise level
LST	localized significance threshold
MM	mitigation measure
MRZ	Mineral Resource Zone
MT	metric ton
NAAQS	National Ambient Air Quality Standards
N_2O	nitrous oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
PCE	passenger-car equivalent

Acronym/Abbreviation	Definition
$PM_{2.5}$	particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter)
PM_{10}	particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter)
PSLTRP	Power Strategic Long-Term Resource Plan
RCNM	Roadway Construction Noise Model
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SMARA	State Mining and Reclamation Act of 1975
SO_x	sulfur oxides
TAC	toxic air contaminant
TCR	tribal cultural resource
UV	Ultraviolet
VHFHSZ	Very High Fire Hazard Safety Zone
VNC	Van Norman Complex
VOC	volatile organic compound
Williamson Act	California Land Conservation Act of 1965

1 INTRODUCTION

1.1 Project Overview

The Los Angeles Department of Water and Power (LADWP) intends to approve, and will seek facility-wide permits related to, its long-term, routine operation and maintenance program at the Van Norman Complex (VNC). The VNC is a 1,340-acre industrial complex located in the Granada Hills area of the City of Los Angeles (City). The VNC consists of existing facilities—including, among other things, water storage reservoirs, detention basins, conveyance channels, and treatment facilities—that cumulatively function to receive, store, treat, and distribute water to the City. LADWP must perform routine vegetation management and maintenance activities on several existing facilities throughout the VNC to ensure proper functionality of the facilities and its water and power systems. The following terms are used in this document: the "project area" is the VNC; the "work areas" are the places within the project area where maintenance activities will occur; and a "study area" is a work area plus a 500-foot survey area buffer. Some species have specific survey areas that are a subset of the study area; specific survey areas are described in more detail in the biological letter report provided in Appendix B of this document. The work areas analyzed in this California Environmental Quality Act (CEQA) document consist of the following:

- Upper Debris Basin
- Middle Debris Basin
- Bee Drainage Channel
- San Fernando Gate Drain
- Upper San Fernando Drain Line
- Upper San Fernando Drain Line Features 1 and 2
- Yarnell Debris Basin
- Bull Creek Extension Channel
- Los Angeles Reservoir (LAR) Ultraviolet (UV) Plant Drainage and V-Ditch
- Upper Northeast Drainage
- San Fernando Creek
- Lower San Fernando Detention Basin
- LAR North Dike Stormwater Basin
- East Channel

1.2 California Environmental Quality Act

CEQA serves as the main framework for evaluating potential environmental impacts of proposed projects in California. CEQA emphasizes the need for public disclosure and identifying and addressing potentially adverse environmental changes associated with proposed projects. Unless the project or program is deemed categorically or statutorily exempt, CEQA is applicable to any project or program that must be approved by a public agency in order to be processed and established. The proposed project considered herein does not fall under any of the statutory or categorical exemptions listed in the 2018 CEQA Statute and Guidelines (California Public Resources Code, Section 21000 et seq.; 14 CCR 15000 et seq.); therefore, it must meet CEQA requirements. LADWP would implement and operate the proposed project and, as a municipal utility, is acting as the CEQA lead agency.

LADWP, as the lead agency, has prepared this Initial Study in accordance with the CEQA Guidelines to evaluate potential environmental impacts and to determine whether an environmental impact report, a negative declaration, or a mitigated negative declaration should be prepared for the proposed project. LADWP has also prepared this Initial Study to satisfy the CEQA requirements of other agencies that may provide approvals and/or permits for the proposed project. The document is accessible to the public, in accordance with CEQA, in order to receive feedback on the proposed project's potential impacts.

1.3 Availability of the Notice of Intent and Initial Study/Mitigated Negative Declaration

The Initial Study/Mitigated Negative Declaration for the proposed project is being distributed directly to numerous agencies, organizations, and interested groups and persons during the 30-day public review period. The Initial Study/Mitigated Negative Declaration is also available at the following locations:

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

Granada Hills Branch Library
10640 Petit Avenue
Granada Hills, California 91344

2 PROJECT DESCRIPTION

2.1 Background

LADWP is the City's municipal utility, and supplies water and electricity to the 4 million residents, businesses, and visitors in the City. LADWP owns and operates the VNC, which is a critical 1,340-acre industrial property located in the San Fernando Valley approximately 20 miles northwest of downtown Los Angeles (Figure 1, Regional Map). As part of maintaining its infrastructure, LADWP seeks to obtain permits for routine vegetation management and maintenance activities in the work areas throughout the VNC.

The VNC serves many functions, including those relating to water and power service, flood control, and police and fire training. The VNC is the termination point for the Los Angeles Aqueducts, and contains the Los Angeles Reservoir (LAR), the largest in-basin reservoir in the City. LADWP operates the VNC, and the waterways therein, to protect this vital potable water source.

The typography of the VNC is characterized by rolling, gentle hills that generally form a concave south-sloping landscape. The VNC is heavily disturbed as a result of modifications and improvements made over years of operation. The VNC's first facilities were built between 1912 and 1921, when LADWP constructed dams and created the Upper and Lower Van Norman Reservoirs to store water from the Los Angeles Aqueduct. In 1970, LADWP constructed a small bypass reservoir and a dam (Department of the Interior 1974). In 1971, a 6.5-magnitude earthquake struck the area, and caused considerable structural damage to the Lower Van Norman Dam, which prompted LADWP to take the Upper and Lower Van Norman Reservoirs out of service. LADWP replaced the reservoirs with a new medium-sized reservoir, the LAR, in the 1970s in the middle of the complex. In subsequent years, LADWP continued to construct additional water facilities at the VNC, including water treatment facilities, detention basins, drainages, and channels, as well as non-water related facilities, such as an office and training station for the Los Angeles Police Department and Los Angeles Fire Department. In addition, a variety of habitats began to emerge on the landscape that was once underwater, including riparian and herbaceous riparian habitat, and emergent marshland.

2.2 Project Location

Van Norman Complex

The VNC is located within the Granada Hills area of the City, approximately 20 miles northwest of downtown Los Angeles. The VNC is south of the Santa Susana Mountains, west of the community of Sylmar, northwest of the Interstate (I) 5 and I-405 interchange, and east of residential uses in Granada Hills. More specifically, the VNC is located adjacent to Sepulveda Boulevard and I-5 to the east; Balboa Boulevard to the northwest; Woodley Avenue to the west; and Rinaldi Street, I-405, and a commercial and residential development to the south. The North Valley Youth Baseball Fields and the Metropolitan Water District Jensen Water Treatment Plant are located immediately adjacent to the

northwest end of the VNC. The City's General Plan designates the VNC as both Open Space and Public Facilities, and it is zoned accordingly (Los Angeles Department of City Planning n.d.).

Surrounding Uses

The VNC is surrounded by commercial, residential, open space, and recreational land uses. Specific land uses located in the immediate vicinity of the VNC include the following:

- **North:** I-5, Metropolitan Water District Jensen Water Treatment Plant, North Valley Youth Baseball Fields
- **East:** I-5 and North Sepulveda Boulevard
- **South:** Granada Hills Little League fields, commercial development, residential development
- **West:** Residential development, Knollwood Golf Course and Country Club

2.3 Existing Setting

The VNC encompasses several LADWP and City facilities. LADWP seeks to perform vegetation management and routine maintenance activities in the project area, which is composed of approximately 15 work areas. The facilities where maintenance would occur are listed in Table 2-1, Facilities, and depicted in Figure 2, Project Area.

Table 2-1. Facilities

Map Number[a]	Facilities
1	Upper Debris Basin
2	Middle Debris Basin
3	Bee Drainage Channel
4	San Fernando Gate Drain
5	Upper San Fernando Drain Line
6	Upper San Fernando Drain Line Feature 1
7	Upper San Fernando Drain Line Feature 2
8	Yarnell Debris Basin
9	LAR UV Plant Drainage and V-Ditch
10	San Fernando Creek
11	Lower San Fernando Detention Basin, including East Channel Earthen Extension, East Channel (Riprap), Lower Southeast Drainage, Northeast Drainage, Upper Southeast Drainage, and Western Channel
12	Bull Creek Extension Channel
13	Upper Northeast Drainage
14	LAR North Dike Stormwater Basin
15	East Channel

Notes: LAR = Los Angeles Reservoir; UV = ultraviolet.
[a] Refers to Figure 2.

The facilities are described in further detail in this section.

Map Number 1: Upper Debris Basin

The Upper Debris Basin is located near the northwest corner of the VNC (see Figure 2). It includes a well-defined drainage feature with steep banks and adjacent terraces that support upland vegetation. The bottom of the drainage feature exhibits a substrate of sand with a fine layer of silt interspersed with areas of sand, gravel, and cobble. Vegetation is typically sparse on the channel bottom, consisting of seedlings and saplings of mulefat (*Baccharis salicifolia*), sandbar willow (*Salix exigua*), and castor bean (*Ricinus communis*). Individuals of sandbar willow and mulefat grow sporadically in a narrow zone on the lower portions of the banks along with upland species such as white sweet clover (*Melilotus albus*). There are no wetlands associated with this drainage segment. Water that accumulates in the Upper Debris Basin discharges to the Middle Debris Basin (see Figure 3A, Upper and Middle Debris Basins) that, in turn, discharges to the Bull Creek Extension Channel. The primary function of the approximately 3-acre Upper Debris Basin is to capture sediments carried from the surrounding watersheds and to perform flood control functions necessary to protect facilities within the VNC.

Map Number 2: Middle Debris Basin

Immediately downstream of the Upper Debris Basin is the Middle Debris Basin (see Figure 2), which includes a low-flow channel, and features areas of streambed and associated riparian habitat. The existing low-flow channel accounts for 2.91 acres and includes the bed and lower portion of the banks, which range from approximately 26 feet to 47 feet in width. The low-flow channel exhibits a substrate of sand with a fine layer of silt interspersed with areas of sand, gravel, and cobble. Vegetation is typically sparse on the channel bottom, consisting of seedlings and saplings of mulefat. The banks support areas of mulefat, sandbar willow, arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*), and giant reed (*Arundo donax*). Mulefat and willow scrub are present on and at the top of the banks, with most of the riparian vegetation on the terrace west of the low-flow channel/streambed. The Middle Debris Basin, like the Upper Debris Basin, functions both as a sediment/flood-control basin.

Maintenance within the Upper and Middle Debris Basins has been previously authorized in accordance with Streambed Alteration Agreement (SAA) 5-209-97, and more recently by SAA 1600-2004-0288-R5 (Revision 2), which terminates December 31, 2022. SAA 1600-2004-0288-R5 authorized temporary impacts to 0.7 acres of riparian habitat.

Map Number 3: Bee Drainage Channel

At the southern terminus of the Middle Debris Basin is a drainage channel designated as the Bee Drainage Channel (see Figure 2), which extends for approximately 700 feet to its confluence with the channel associated with the Middle Debris Basin. The channel originates at an outfall with an approximately 15-foot by 90-foot section of grouted riprap that supports black willow (*Salix gooddingii*), as well as some cattails and tall umbrella sedge (*Cyperus eragrostis*) (see Figure 3B, Bee Drainage Channel).

Map Number 4: San Fernando Gate Drain

The San Fernando Gate Drain sits at the northernmost portion of the VNC (see Figure 2), and spans approximately 500 feet. The 'gate' portion of the feature is a concrete outlet that is fed by a large underground pipe that collects runoff from San Fernando Road (see Figure 3C, San Fernando Gate Drain), which collects drainage from a railroad right-of-way and I-5. The drainage channel begins at a 1-foot by 4-foot outfall and extends for approximately 500 feet to where the drainage terminates at an inlet pipe. Similar to the drainage segments described thus far, this drainage feature exhibits a substrate of sand with a fine layer of silt interspersed with areas of sand, gravel, and cobble. Vegetation is typically sparse on the channel bottom, consisting of non-native weedy species including castor bean, spot-leaf spurge (*Euphorbia maculata*), stinkwort (*Dittrichia graveolens*), and Canadian horseweed (*Erigeron Canadensis*). There is no riparian habitat associated with this drainage segment.

Map Number 5: Upper San Fernando Drain Line

The Upper San Fernando Drain Line (see Figure 2) originates immediately downstream of the Tailrace Channel, which consists of water from the Los Angeles Aqueduct (large capsule-shaped channel at north end of complex; not part of proposed project). The Upper San Fernando Drain Line discharges to a pipe that discharges to the East Channel and subsequently to the Lower San Fernando Detention Basin. The channel has been excavated in uplands to convey flows across this portion of the VNC and supports southern cattail (*Typha domingensis*), smartweed (*Persicaria lapathifolia)*, and watercress (*Nasturtium officinale*), with white sweet clover on the banks (see Figure 3D, Upper San Fernando Drain Line).

Map Number 6: Upper San Fernando Drain Line Feature 1

Feature 1 of the Upper San Fernando Drain Line (see Figure 2) is a drainage course that extends approximately 400 feet to where it opens into a low area dominated by southern cattail, arroyo willow, red willow (*Salix laevigata*), sand spikerush (*Eleocharis montevidensis*), and hardstem bulrush (*Schoenoplectus acutus*) (see Figure 3E, Upper San Fernando Drain Line Feature 1). Pipes measuring 1-foot in diameter connect this area to the adjacent Upper San Fernando Drain Line, which is separated from the riparian area by an earthen access road.

Map Number 7: Upper San Fernando Drain Line Feature 2

Feature 2 of the Upper San Fernando Drain Line originates to the east and from an outfall where the San Fernando Drain Line begins (see Figure 2), and opens into an area dominated in the upper half by arroyo willow. The upper half of the channel is lined with broken concrete and other rock. The lower half supports a mix of southern cattail, with areas of white sweet clover on the banks and in the channel (see Figure 3F, Upper San Fernando Drain Line Feature 2).

Map Number 8: Yarnell Debris Basin

The Yarnell Debris Basin is located within the east–central portion of the VNC (see Figure 2). A series of pipes discharge to the uppermost portion of the Yarnell Debris Basin—including one 6-foot diameter, one 8-foot diameter, and one 9-foot diameter pipe—each of which carries stormwater from beneath I-5 and Sepulveda Boulevard. In addition, two 5-foot by 7-foot concrete boxes discharge to the basin, both of which receive stormwater from a concrete trapezoidal

channel that parallels Sepulveda Boulevard. Immediately below the three pipes and two boxes, the channel is lined with concrete for approximately 100 feet, after which the channel is earthen. The area lined with concrete accumulates sediments that vary in depth from approximately 6 inches to 1 foot. The earthen drainage channel ranges from 10 feet to 11 feet, and extends through the arroyo willow forest for approximately 1,060 feet to where the vegetation transitions to herbaceous dominated areas that primarily support smartweed, with localized areas of salt grass (*Distichlis spicata*), Mexican rush (*Juncus mexicanus*), and alkali mallow (*Malvella leprosa*). The lower portion of the Yarnell Debris Basin also supports a low area dominated by arroyo and red willow interspersed throughout with sandbar willow, black willow, and Fremont cottonwood occurring to a lesser degree. The Yarnell Debris Basin is a secondary containment area for the Sylmar Converter Stations, a LADWP Power System facility.

Map Number 9: Los Angeles Reservoir Ultraviolet Plant Drainage and V-Ditch

The LAR UV Plant is a second ultraviolet disinfection facility currently being constructed southeast of the LAR to treat water leaving the LAR and entering the City's water distribution system. The LAR UV Plant is being constructed to help LADWP further comply with the U.S. Environmental Protection Agency's Long Term 2 Enhanced Surface Water Treatment Rule. The LAR UV Plant Drainage and V-Ditch refer to the stormwater conveyance channel that runs along the western boundary of the LAR UV Plant (see Figure 2). The LAR UV Plant Drainage feature originates immediately below I-5 and begins as a small erosional feature a few feet in width. The drainage is then carried under an access road by a culvert. Below the access road, the feature becomes a constructed channel that directs runoff from the slopes of I-5 to the Lower San Fernando Detention Basin. Slope gradients are fairly level, with slightly lower elevations within the southern portion of the work area. Distinctive geographic features include the LAR, approximately 850 feet northwest of the work area. The LAR UV Plant Drainage and V-Ditch appear to be some of the more disturbed sites within the VNC (see Figure 3H, LAR UV Plant Drainage and V-Ditch).

The channel supports dense growth of desert brittlebush (*Encelia farinosa*), extending from the access road for about 570 feet to another access road. At the lower access road, flows are discharged through a 24-inch-diameter culvert. Beginning just above the discharge point, the drainage feature below the lower access road consists of a 6-foot wide, "U-Shaped," concrete channel segment, with the area capable of carrying flows approximately 4.5 feet wide. From its point of origin, the concrete channel segment extends for approximately 175 feet where it makes a 90-degree bend and parallels one of the major access roads to the Lower San Fernando Detention Basin. The concrete channel extends for approximately 350 feet to the culverted crossing associated with the LAR UV Plant.

From the culverted crossing, the concrete channel segment extends in a southwesterly direction for another approximately 500 feet to where it turns to the south for another 250 feet to where the concrete ends. A segment of this channel is currently being modified under SAA Notification No. 1600-2017-0113-R5 as part of the LAR UV Plant Project. The modification will include the installation of a 24-inch reinforced corrugated pipe culvert and a concrete headwall at each end of the pipe. Completion of this work is anticipated to be in Summer 2019. The banks on both sides of the concrete channel are dominated by California buckwheat (*Eriogonum fasciculatum*) and desert brittlebush. Where the concrete channel terminates, an earthen channel extends to another access road and this reach of the channel

supports southern cattail, arroyo willow, and sandbar willow. Below the road crossing, the channel is incised 3 feet to 5 feet deep, and the banks are dominated by desert brittlebush, castor bean, shortpod mustard (*Hirschfeldia incana*), and upland non-native grasses, with no wetland or riparian vegetation. SAA Notification No. 1600-2017-0113-R5 also authorizes the installation of a 12-inch-diameter drain line that will cross this segment. The drainage feature then extends toward the Lower San Fernando Detention Basin to where the channel feature becomes indistinct.

Map Number 10: San Fernando Creek

San Fernando Creek originates south of the Lower San Fernando Dam at an outfall structure that discharges water from the Lower San Fernando Detention Basin (see Figure 2). From the outfall, the drainage extends approximately 1,265 feet to its confluence with the Bull Creek Extension Channel. The segment of San Fernando Creek is perennial due to the discharge of water from the Lower San Fernando Detention Basin, and exhibits a stream ranging from 9 feet to 18 feet with fringing wetlands dominated by southern cattail, red willow, arroyo willow, and yellow willow (*Salix lutea*) (see Figure 3I, San Fernando Creek).

Map Number 11: Lower San Fernando Detention Basin

The Lower San Fernando Detention Basin is a primary detention basin in the VNC (see Figure 2). It is located south of the LAR and totals approximately 71.7 acres (see Figure 3J, Lower San Fernando Detention Basin). This area primarily supports disturbed upland habitat (55 acres)[1] with some native upland habitat (4.7 acres), riparian thicket and woodland habitat (8.1 acres), cattail marsh (3.1 acres), and open water (0.25 acres) interspersed. The Lower San Fernando Detention Basin has a prominent canopy made up of Fremont cottonwood; a dense mid-story composed of several willow species, including an arroyo and red willow canopy; and an understory dominated by Douglas's sagewort (*Artemisia douglasiana*), mulefat, stinging nettle (*Urtica dioica*), California wild grape (*Vitis californica*), and cocklebur (*Xanthium strumarium*). The Lower San Fernando Detention Basin supports an area of emergent marsh that ranges from approximately 100 to 250 feet in width and extends for approximately 1,100 feet to where water discharges to an outfall structure that carries water through a pipe to San Fernando Creek.

The Lower San Fernando Detention Basin can receive water from the Bull Creek Extension Channel during overflow events, and can accommodate a peak maximum flow scenario of approximately 8,000 cubic feet per second. Several discrete features occur within the Lower San Fernando Detention Basin, as described below.

Lower Northwest Drainage

The upper portion of this drainage feature is an extension of the Upper Northwest Drainage, and within the Lower San Fernando Detention Basin, the drainage extends to the southeast to where it is no longer distinct.

[1] These acreages represent conditions at the time of the biological and delineation surveys in 2018 and 2019; however, riparian and marsh habitat and areas of open water vary from year to year.

Northeast Drainage

The Northeast Drainage begins immediately below an outfall structure that discharges flows from the Upper Northeast Drainage originating in the Lakeside Debris Basin. Vegetation associated with upper approximately two-thirds of the Northeast Drainage consists of herbaceous vegetation within the channel bottom, including Spanish false fleabane (*Pulicaria paludosa*), stinkwort (*Dittrichia graveolens*), and white sweet clover (*Melilotus albus*). The banks include occasional individuals of red willow (*Salix laevigata*); however, the banks are largely dominated by non-native castor bean (*Ricinus communis*). The lower one-third of the channel supports dense thickets of the Spanish false fleabane and white sweet clover (*Melilotus albus*), with small patches of southern cattail (*Typha domingensis*) and scattered red willow, arroyo willow (*Salix lasiolepis*), and Fremont cottonwood (*Populus fremontii*). Slopes along the lower one-third of the channel support a mix of willows and cottonwoods mixed with castor bean and white sweet clover. This feature discharges to the emergent marsh within the Lower San Fernando Detention Basin.

Upper Southeast Drainage

The Upper Southeast Drainage begins immediately below an outfall structure that discharges flows originating off site and extends approximately 1,500 feet from the outfall as it enters the emergent marsh area. Vegetation associated with the Southeast Drainage consists of herbaceous vegetation within the channel bottom, including dense thickets of yellow-star thistle (*Centaurea solstitialis*), Russian thistle (*Salsola tragus*), Spanish false fleabane, stinkwort, white sweet clover, and common tarweed (*Centromadia pungens* ssp. *pungens*).

Lower Southeast Drainage

The Lower Southeast Drainage originates off site and drains to the Lower San Fernando Detention Basin through a drainage lined with broken concrete. Discharges originate locally within a recycling facility and, from where the drainage enters the Lower San Fernando Detention Basin, extends approximately 220 feet to where the riparian habitat begins. The upper 220 feet supports a mix of upland scrub, including coyote bush (*Baccharis pilularis*), desert brittlebush (*Encelia farinosa*), and upland grasses and forbs such as summer mustard (*Hirschfeldia incana*). This feature discharges to the emergent marsh within the Lower San Fernando Detention Basin.

East Channel Earthen Extension

The concrete portion of the East Channel (described below) discharges to a 350-foot-long riprap-lined earthen segment that, in turn, discharges to the upper portion of the Lower San Fernando Detention Basin. Within the Lower San Fernando Detention Basin, the Earthen Channel ranges in width from approximately 30 to 40 feet and extends for approximately 940 feet to where the Earthen Channel discharges to an area of emergent marsh. The Earthen Channel supports arroyo willow, red willow, and black willow (*Salix gooddingii*) with an understory of southern cattail (*Typha domingensis*).

Eastern Wetland

Immediately east of and adjacent to the Earthen Channel described above is an area of herbaceous wetlands dominated by non-native rabbitsfoot grass (*Polypogon monspeliensis*). This area is connected by sheet flow to the area of emergent marsh within the Lower San Fernando Detention Basin.

Work Area 12: Bull Creek Extension Channel

The Bull Creek Extension Channel (see Figure 2) is a concrete-lined structure that originates where the Middle Debris Basin terminates and the channel discharges to the Bull Creek Extension Channel (see Figure 3K, Bull Creek Extension Channel). The channel extends for approximately 9,600 linear feet to its confluence with San Fernando Creek. The width of the channel varies from approximately 25 feet to 30 feet. In addition to the Bull Creek Extension Channel, LADWP constructed a concrete overflow that discharges high flows to the Lower San Fernando Detention Basin.

Work Area 13: Upper Northeast Drainage

The Upper Northeast Drainage is an unvegetated earthen-bottomed drainage located on the southeastern boundary of the VNC (see Figure 2). The Upper Northeast Drainage enters the VNC through a culvert that extends beneath I-5, originating within the Lakeside Debris Basin outside of the VNC. Discharges from the Lakeside Debris Basin through the Upper Northeast Drainage are routed into the Lower San Fernando Detention Basin through a 150-inch-diameter corrugated metal pipe culvert that crosses beneath I-5. Although the bottom of the streambed is unvegetated, vegetation occurs on the slopes surrounding the drainage (see Figure 3L, Upper Northeast Drainage), and includes arroyo willow thickets, California sagebrush scrub, and Fremont cottonwood forest alliance.

Work Area 14: Los Angeles Reservoir North Dike Stormwater Basin

The LAR North Dike Stormwater Basin is a stormwater basin located northwest of the LAR (see Figure 2). Similar to the Yarnell Debris Basin, the presence of water at the LAR North Dike Stormwater Basin is subject to variable levels of inundation due to seasonal weather conditions, as well as activities with LADWP operations. Hydrophytic or emergent herbaceous vegetation (e.g., cattail marsh, smartweed patches, and young willows) may grow within areas where open water recedes (see Figure 3M, LAR North Dike Stormwater Basin). Vegetation communities at this basin includes cattail marsh, water sedge and lakeshore sedge meadows, and California buckwheat scrub.

Work Area 15: East Channel

The East Channel is a concrete-lined channel that conveys flows from the northern edge of the LAR, along the LAR's eastern edge, and into the Lower San Fernando Detention Basin (see Figure 2). In the East Channel, small patches of cattails occur within sediment accumulated along seams in the concrete (see Figure 3N, East Channel).

2.4 Project Operations and Maintenance

The specific activities performed at each work area would vary due to the unique characteristics of the work areas (e.g., some work areas are completely natural, while others are predominantly constructed). However, activities would generally include removal of overgrown vegetation, mowing herbaceous vegetation, and removal of accumulated sediment and debris. LADWP staff would perform the maintenance activities annually or on an as-needed basis. LADWP would rotate maintenance activities supporting riparian habitat in the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Detention Basin such that each area would be subject to maintenance no more than once every 3 years. As described in Avoidance and Minimization Measure (AMM) Bio-1, LADWP would conduct work

outside of the bird breeding/nesting season, or conduct nesting bird surveys and monitoring to ensure that there would be no noise impacts to nesting birds. Additionally, within the blue elderberry stands near the Middle Debris Basin, maintenance would be limited to hand pruning of the lower limbs, as needed, and maintenance of the understory. Maintenance activities in the Upper and Middle Debris Basins would be consistent with the existing SAA 1600-2004-0288-R5 revision 2; these activities are detailed below.

In performing the proposed maintenance activities, LADWP would use equipment ranging from hand tools, mowers, loaders, bobcat dozers, and backhoes (see Table 2-2). The following section contains further discussion regarding the proposed maintenance activities at a higher level of detail.

Table 2-2. Summary of Proposed Maintenance Activities

Map Number*	Work Area	Proposed Maintenance Activities	Proposed Equipment
1	Upper Debris Basin	Remove overgrown vegetation, remove accumulated sediment	Excavator, Bobcat dozer or backhoe, loader, hand tools
2	Middle Debris Basin	Remove overgrown vegetation, remove accumulated sediment	Excavator, Bobcat dozer or backhoe, loader, hand tools
3	Bee Drainage Channel	Remove overgrown vegetation, remove accumulated sediment	Bobcat dozer or backhoe, loader, hand tools
4	San Fernando Gate Drain	Remove non-native vegetation, remove accumulated sediment	Excavator, Bobcat dozer or backhoe, loader, hand tools
5	Upper San Fernando Drain Line	Excavate to remove cattails	Excavator, loader, hand tools
6	Upper San Fernando Drain Line Feature 1	Remove overgrown bulrush and cattails; clear and grub overgrown vegetation	Excavator, Bobcat dozer or backhoe, loader, hand tools, tractor and mower
7	Upper San Fernando Drain Line Feature 2	Clear and grub overgrown vegetation	Bobcat dozer or backhoe, hand tools
8	Yarnell Debris Basin	Mow herbaceous vegetation in lower part of basin	Tractor and mower
9	LAR UV Plant Drainage and V-Ditch	Remove overgrown vegetation	Tractor and mower, hand tools
10	San Fernando Creek	Clear overgrown vegetation	Excavator, Bobcat dozer or backhoe, loader, hand tools
11	Lower San Fernando Detention Basin, including East Channel Earthen Extension, East Channel (Riprap), Lower Southeast Drainage, Northeast Drainage, Upper Southeast	Remove overgrown vegetation (trees and native vegetation to be left in place)	Tractor and mower, hand tools

Table 2-2. Summary of Proposed Maintenance Activities

Map Number*	Work Area	Proposed Maintenance Activities	Proposed Equipment
	Drainage, and Western Channel		
12	Bull Creek Extension Channel	Remove accumulated sediment and debris	Crane with bucket, loader, hand tools
13	Upper Northeast Drainage	Remove overgrown vegetation	Loader, hand tools
14	LAR North Dike Stormwater Basin	Remove accumulated sediment and debris, remove and trim overgrown vegetation	Excavator, loader, hand tools
15	East Channel	Trim and remove overgrown vegetation	Bobcat dozer or backhoe, loader, hand tools

Notes: LAR = Los Angeles Reservoir; UV = ultraviolet.
* Refers to Figure 2.

Streambed Authorization Agreement 1600-2004-0268-R5

LADWP and the California Department of Fish and Game (now the California Department of Fish and Wildlife [CDFW]) entered into SAA 1600-2004-0268-R5 in July 2010. The SAA authorizes LADWP to conduct certain long-term maintenance activities at the Upper Debris Basin and Middle Debris Basin through 2022, including the following:

a. Throughout the UDB [Upper Debris Basin] and MDB [Middle Debris Basin], a 50-foot wide by 644-foot long and 2–3 feet deep low-flow channel may be excavated, affecting an estimated 0.70 acres. This work may occur annually or on an as-needed basis.

b. Additional maintenance may occur within a 75-foot maintenance zone as part of the maintenance of the basins. This can include the removal of dead trees, tree limbs, downed vegetation, and the trimming of tree branches (no higher than 4" from the bottom).

c. The only vegetation alternation that may occur outside of the 75-foot zone includes the removal of downed vegetation that may cause a flow blockage. Otherwise, dead trees shall be left in place to provide habitat.

d. Selective vegetation removal at the project site may occur where overgrown vegetation interferes with: 1) the right-of-way easement with the high-voltage transmission lines; 2) access roads; 3) is a fire hazard as defined by the Fire Department.

e. After each sediment removal activity, persistent non-native plants shall be removed from the basin areas. Target plants include *Arundo*, castor bean, tamarisk, tree tobacco and eucalyptus.

f. [Development of] an *Arundo* management plan to address the removal of all *Arundo* (giant reed) at the Van Norman Complex.[…] Arundo removal shall occur at least twice annually.

LADWP will be seeking a long-term SAA for the entire VNC that would include maintenance of the Upper and Middle Debris Basins. LADWP will be requesting that the conditions in the existing SAA be carried over to the long-term SAA, and that any additional impacts to riparian vegetation because of required maintenance within the 75-foot buffer zone be authorized with agreed upon mitigation. The new long-term SAA would supersede the existing SAA for the Upper and Middle Debris Basins.

2.5 Project Related Actions

The analysis in Chapter 3 of this Initial Study evaluates the potential impacts associated with implementation of the proposed project. The proposed project would implement measures to avoid and minimize impacts to the environment—including measures required by applicable laws and regulations, and any additional measures adopted by LADWP as part of the proposed project (i.e., AMMs). LADWP would be responsible for the appropriate implementation of the AMMs, and would verify their implementation as part of the Mitigation Monitoring and Reporting Program (see Appendix F). The AMMs are discussed throughout Chapter 3 of this Initial Study. Due to the length of the AMMs, some AMMs are only partially provided within Chapter 3 of this Initial Study. For the full text of each AMM, please see Appendix F.

2.6 Project Phasing

Project operations would occur on an annual or as-needed basis. Maintenance activities supporting riparian habitat in the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Detention Basin would be rotated such that each area would be subject to maintenance no more than once every 3 years. Proposed maintenance activities would not occur concurrently because LADWP would likely use the same in-house crew at each work area. Proposed maintenance activities anticipated to take the longest (i.e., 9 to 14 days) would occur at the Upper Debris Basin and the Middle Debris Basin. Proposed maintenance activities are anticipated to occur between September and December of each year.

2.7 Discretionary Approvals Required for the Project

The following discretionary permits and approvals may be needed from the following agencies for certain activities proposed as part of the long-term operations and maintenance of the VNC (for example, where activities are within certain waters and wetlands and may adversely affect species listed as threatened or endangered):

Federal Permits

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers

State Permits

- CDFW

- Los Angeles Regional Water Quality Control Board (RWQCB)

References

Los Angeles Department of City Planning. n.d. "Zone Information and Map Access System." Accessed September 2018.

Department of the Interior. 1974. "The Van Norman Reservoirs Area, Northern San Fernando Valley, California." *Geological Survey Circular 691-A, B*. Published 1974. Accessed October 2018. https://pubs.usgs.gov/circ/1974/0691a/report.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 (2018) to determine if the proposed project may have a significant effect on the environment.

1. Project title:

Van Norman Complex Routine Operation and Maintenance Program

2. Lead agency name and address:

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

3. Contact person and phone number:

Christopher Lopez
Environmental Planning and Assessment
Los Angeles Department of Water and Power
213.367.3509

4. Project location:

The VNC is located in the Granada Hills area of the City, approximately 20 miles northeast of downtown. The approximately 1,340-acre industrial complex sits at the foothills of the Santa Susana Mountains in the northern portion of the San Fernando Valley. The project area is located approximately 0.5 miles northwest of the I-5 and I-405 interchange. It is generally bounded by Sepulveda Boulevard and I-5 to the east and northeast; Balboa Avenue to the northwest; Woodley Avenue to the west; and Rinaldi Street, I-405, and commercial and residential development to the south.

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 Districts:

District 7 and District 12

7. Neighborhood Council Districts:

Sylmar Neighborhood Council and Granada Hills North Neighborhood Council

8. General Plan designation:

Refer to Section 1.3, Availability of the Notice of Intent and Initial Study/Mitigated Negative Declaration, of this Initial Study.

9. Zoning:

Refer to Section 1.3 of this Initial Study.

10. Description of project:

Refer to Chapter 2, Project Description, of this Initial Study.

11. Surrounding land uses and setting:

Refer to Section 1.3 of this Initial Study.

12. Other public agencies whose approval may be required:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- California Department of Fish and Wildlife
- Los Angeles RWQCB

13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Consultation is underway. Refer to Section 3.18, Tribal Cultural Resources, of this Initial Study for further details.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code, Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code, Section 5097.96, and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code, Section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this proposed project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklists on the following pages.

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

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier 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.

Signature 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

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

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

Less-Than-Significant Impact. The City's General Plan defines scenic views or vistas as panoramic public view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features (City of Los Angeles 2001). Namely, the San Gabriel Mountains, the Santa Monica Mountains, the Palos Verdes Hills, the Pacific Ocean, and the Los Angeles River and its associated tributaries and flood plains are identified as prominent topographic features (City of Los Angeles 2001). Public vantage points of scenic vistas can be from parklands, private and publicly owned sites, and public rights-of-way (City of Los Angeles 2001). The proposed maintenance activities would result in visual changes that are minor in magnitude and would be located within the context of existing facilities at the VNC. Proposed maintenance activities, such as sediment removal and vegetation maintenance, would primarily maintain the existing facilities, with very little to no visual change. The presence of construction equipment needed to perform maintenance

activities would be short term and temporary. In addition, these activities would not occur in areas frequented by, or even visible to, the general public. The project area is inaccessible to the general public, and the area is not visible from surrounding roadways (e.g., I-5). Thus, impacts of the proposed project on scenic vistas would be **less than significant**.

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

No Impact. There are no officially designated state scenic highways located within the project area. Portions of the I-5 and I-210 are eligible state scenic highways located immediately north, northeast, and northwest of the project area (Caltrans 2018). However, as discussed in Section 3.1(a), the proposed maintenance activities would result in very little to no visual changes and would be located within the context of existing facilities at the VNC. The proposed project would not affect any trees, rock outcroppings, or historic buildings. Thus, the project would result in **no impact** associated with scenic resources within a state scenic highway.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-Than-Significant Impact. Section 21071 of the California Public Resources Code defines an "urbanized area" as "(a) an incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons, or (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." As of January 1, 2019, the California Department of Finance estimated the population within the City to be 4,040,080 persons (CDOF 2019). Therefore, the project would be located in an urbanized area. To preserve and enhance the existing visual character and quality of the surrounding environment, the City has adopted various development standards, architectural guidelines, and zoning regulations that govern future development within the City. Because the proposed project would involve the maintenance and repair of existing facilities and would not involve construction of any built structures, the project would not conflict with any ordinance or regulation governing scenic quality, as the City does not have adopted regulations that relate to scenic quality and that pertain to maintenance activities. Furthermore, any sediment removal or vegetation management that would occur during maintenance activities would result in only minor, incremental visual changes that would be characteristic of activities that already occur at the VNC. Similarly, the visual presence of vehicles and personnel during maintenance activities would be temporary and would represent a continuation of existing routine activities. For these reasons, the impact of proposed maintenance activities on the character or quality of the project area and its surroundings would be **less than significant**.

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

No Impact. No new permanent or temporary lighting would be installed as part of the proposed project. Maintenance activities are typically conducted during daytime hours. Because the proposed project does not include any lighting, there would be **no impact** related to new sources of lighting.

References

Caltrans (California Department of Transportation). 2018. "Scenic Highways." Accessed September 2018. http://www.dot.ca.gov/design/lap/livability/scenic-highways.

CDOF (California Department of Finance). 2019. "E-1: City/County/State Population Estimates with Annual Percent Change January 1, 2018 and 2019." *Department of Finance Demographic Research Unit Population Estimates for California Cities*. May 1, 2019. Accessed August 22, 2019. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/documents/E-1_2019PressRelease.pdf.

City of Los Angeles. 2001. "Conservation Element." In *City of Los Angeles General Plan*. September 26, 2001. Accessed September 2018. https://planning.lacity.org/cwd/gnlpln/consvelt.pdf.

3.2 Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
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?	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Farmland Mapping and Monitoring Program shows the majority of the VNC as Other Land, with areas inside the project area categorized as Urban and Built-Up Land (State of California Department of Conservation n.d.). The land immediately adjacent to the project area is categorized as Urban and Built-Up Land. Two small segments of land southeast of the intersection of I-5 and I-405, approximately 0.4 miles southeast of the VNC, are Unique Farmland and Prime Farmland. I-405 and Eden Memorial Park are situated between the project area and these segments of Farmland. There is no Farmland located within or immediately adjacent to the project area, and as such, the project is not expected to have an impact on Farmland. The proposed maintenance activities would not result in any changes to the existing land use within or near the project area. Thus, the proposed project would not convert Farmland to non-agricultural use, resulting in **no impact**.

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

No Impact. According to the Los Angeles Department of City Planning (n.d.) Zone Information and Map Access System, the project area contains two separate land use designations, Public Facilities and Open Space. The Granada Hills-Knollwood Community Plan also designates the project area as Public Facilities and Open Space (Los Angeles Department of City Planning 2015). The project area is not zoned for agricultural use, and it is not under a California Land Conservation Act of 1965 (Williamson Act) contract. Additionally, the proposed maintenance activities would not result in a change to existing zoning or land use designations, and thus would not conflict with existing zoning. The project would result in **no impact** to existing zoning for agricultural use or a Williamson Act contract.

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. As mentioned in Section 3.2(b), the project area contains two land use designations, Public Facilities and Open Space (Los Angeles Department of City Planning n.d.). According to the Conservation Element of City's General Plan, the only remaining substantial forestland within the immediate Los Angeles area is within the Angeles National Forest and on the north slope of the Santa Susana Mountains. The project area does not contain forestland or timberland as defined by the Public Resources Code or Government Code. The proposed maintenance activities would not conflict with existing zoning or cause rezoning of forestland or timberland. Thus, the proposed project would result in **no impact** to forestland or timberland.

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

No Impact. As mentioned in Section 3.2(c), the only substantial remaining forestland in the Los Angeles area is within the Angeles National Forest and on the north slope of the Santa Susana Mountains. The project area does not consist of forestland. The proposed maintenance activities would not result in the loss of forestland or conversion of forestland to non-forest use. Thus, the project would result in **no impact** to forestland.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As stated in Sections 3.2(b–c), the project area is zoned as Public Facilities and Open Space. There is no existing agriculture, forestland, or timberland located in the project area. There are two small segments of Prime Farmland and Unique Farmland to the southeast of the VNC, east of I-405. The proposed project consists of maintenance activities that would not result in substantial changes to the existing environment in a way that would convert Farmland to non-agricultural use or convert forestland to non-forest use. The proposed maintenance activities would not result in any changes to the existing land use within or surrounding the project area. The proposed project would not result in the conversion of Farmland to non-agricultural use or the conversion of forestland to non-forest use, and thus would result in **no impact** to Farmland or forestland.

References

City of Los Angeles. 2001. "Conservation Element." In *City of Los Angeles General Plan*. September 26, 2001. Accessed September 2018. https://planning.lacity.org/cwd/gnlpln/consvelt.pdf.

Los Angeles Department of City Planning. 2015. *Granada Hills-Knollwood Community Plan*. October 28, 2015. Accessed June 2018. https://planning.lacity.org/complan/pdf/ghlcptxt.pdf.

Los Angeles Department of City Planning. n.d. "Zone Information and Map Access System." Accessed June 2018.

State of California Department of Conservation. n.d. Farmland Mapping and Monitoring Program. Accessed June 2018. http://www.conservation.ca.gov/dlrp/fmmp.

3.3 Air Quality

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

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

Less-Than-Significant Impact. The project area is located in the Granada Hills area of the City, within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD).

The SCAQMD administers the SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The most recently adopted AQMP for the SCAB is the 2016 AQMP (SCAQMD 2017). The 2016 AQMP focuses on available, proven, and cost-effective alternatives to traditional air quality strategies while seeking to achieve multiple goals in partnership with other entities seeking to promote reductions in greenhouse gases (GHGs) and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability

to comply with federal and state air quality standards. The SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** 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.
- **Consistency Criterion No. 2:** Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed under Section 3.3(b). Detailed results of this analysis are included in Appendix A, Air Quality and Greenhouse Gas Calculations. As presented in Section 3.3(b), the proposed project would not generate criteria air pollutant emissions that exceed the SCAQMD's thresholds, and it would therefore be consistent with Criterion No. 1.

The second criterion regarding the potential of the proposed project to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the proposed project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstruct implementation of, the AQMP if the growth they produce in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (SCAQMD 1993). The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, and employment by industry) developed by the Southern California Association of Governments (SCAG) for its 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (SCAG 2016). SCAQMD uses this document, which is based on general plans for cities and counties in the SCAB, to develop the AQMP emissions inventory (SCAQMD 2017).[2] The SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, and associated Regional Growth Forecast, are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

[2] Information necessary to produce the emissions inventory for the SCAB is obtained from the SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), the California Department of Transportation, and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy are integrated in the 2016 AQMP (SCAQMD 2017).

The proposed project consists of the routine vegetation management and maintenance activities at multiple facilities throughout the VNC in order to ensure that the facilities are functioning properly. The routine maintenance would be performed by existing LADWP staff and would not create additional employment. As such, since the proposed project is not anticipated to result in population growth or generate an increase in employment that would conflict with existing employment population projections, it would not conflict with or exceed the assumptions in the 2016 AQMP. Accordingly, the proposed project is consistent with the SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, 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 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less-Than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (Goss and Kroeger 2003).

A quantitative analysis was conducted to determine whether proposed activities might result in emissions of criteria air pollutants that may cause exceedances of the NAAQS or CAAQS, or contribute to existing nonattainment of ambient air quality standards. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}; course particulate matter), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$; fine particulate matter), and lead. Pollutants that are evaluated herein include volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), which are important because they are precursors to O_3, as well as CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$.

Regarding NAAQS and CAAQS attainment status,[3] the SCAB is designated as a nonattainment area for federal and state O_3 and $PM_{2.5}$ standards (CARB 2017; EPA 2018). The SCAB is also designated as a nonattainment

[3] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. The standards 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 are

area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO and NO_2 standards, as well as for state sulfur dioxide standards. Although the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard.[4]

The proposed project would result in emissions of criteria air pollutants for which the U.S. Environmental Protection Agency and the California Air Resources Board (CARB) and 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 Significance Thresholds, as revised in March 2015, set forth quantitative emission significance thresholds for criteria air pollutants that, if exceeded, would indicate the potential for a project to contribute to violations of the NAAQS or CAAQS. Table 3-1 lists the revised SCAQMD Air Quality Significance Thresholds (SCAQMD 2015).

Table 3-1. South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	*Construction (in pounds per day)*	*Operation (in pounds per day)*
VOC	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
Toxic Air Contaminants and Odor Thresholds		
Toxic air contaminants[b]	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.

CO = carbon monoxide; NO_x = oxides of nitrogen; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides; VOC = volatile organic compound.

a The phaseout 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.

set by the U.S. Environmental Protection Agency and California Air Resources Board. Attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards.

4 The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[b] Toxic air contaminants include carcinogens and noncarcinogens.

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 proposed project's maintenance or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 3-1. 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 (i.e., VOCs and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

The following discussion quantitatively evaluates project-generated emissions and impacts that would result from implementation of the proposed project. Since the proposed project is considered routine operation and maintenance, the impact assessment compares the emissions to the SCAQMD operational thresholds.

Project Maintenance Emissions

Proposed project activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road equipment and dust) and off-site sources (i.e., on-road trucks and worker vehicle trips). 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.

As discussed in detail below, implementation of the project would generate criteria air pollutant emissions from off-road equipment, vehicle travel, and material handling. Internal combustion engines used by off-road equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by earthmoving necessary to maintain the project area, material handling for truck loading/unloading activity, on-road vehicles traveling on paved roads, and from brake and tire wear. The proposed project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during any dust-generating activities. To limit fugitive dust, the proposed project would include watering twice daily and a speed limit of 15 miles per hour for unpaved roads.

It is anticipated that project activities would not include application of architectural coatings, such as exterior application/interior paint and other finishes, or application of asphalt pavement. Accordingly, associated VOC off-gassing emissions from coatings and asphalt are not estimated herein.

Maintenance assumptions were developed based on the current best available information for the proposed project. Since the same maintenance crew would likely be performing the routine maintenance throughout the project area, there would be no simultaneous maintenance occurring at the various sites.

Schedule

A detailed depiction of expected maintenance schedules—including information regarding phasing, equipment used during each phase, trucks, and worker vehicles—is provided in Appendix A and summarized in Section 2.6, Project Phasing, of this Initial Study.

Emissions Estimation Methodology and Assumptions

Proposed project activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road equipment and soil disturbance) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from the operation and maintenance activities[5] of the proposed project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with project activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters—including the land use type used to represent the proposed project and its size, schedule, and anticipated use of off-road equipment—were based on information provided by LADWP or default model assumptions if project specifics were unavailable.

Based on information provided by LADWP, it was assumed that the first year of maintenance of the proposed project would commence in September 2019,[6] would last approximately 5 months, and would end in January 2020. However, as a conservative scenario, the first year of maintenance was assumed to occur completely within 2019. The subsequent recurring annual maintenance was assumed to begin in 2020, and occur annually thereafter from September through January. The project phasing schedule and duration, vehicle trip assumptions, and off-road equipment used for estimating project-generated emissions are shown in Table 3-2.

Table 3-2. Maintenance Scenario Assumptions

		One-Way Vehicle Trips		Equipment		
Maintenance Phase	Duration (Initial Year/Thereafter)	*Average Daily Worker Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Upper Debris Basin	10 days/5 days	8	8	Excavator	1	6

5 Off-road construction equipment would be used in the operation and maintenance activities of the proposed project.

6 The analysis assumed a project start date of September 2019, which represents the earliest date maintenance would initiate. Assuming the earliest start date for the proposed project represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emissions factors for later years would be slightly less due to more stringent standards for off-road equipment and heavy-duty trucks, as well as fleet turnover to replace older equipment and vehicles.

Table 3-2. Maintenance Scenario Assumptions

Maintenance Phase	Duration (Initial Year/Thereafter)	One-Way Vehicle Trips		Equipment		
		Average Daily Worker Trips	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
				Tractor/loader/backhoe	1	6
				Rubber tired loader	1	6
Middle Debris Basin	14 days/9 days	8	8	Excavator	1	6
				Tractor/loader/backhoe	1	6
				Rubber tired loader	1	6
Bee Drainage Channel	2 days/2 days	8	2	Tractor/loader/backhoe	1	6
				Rubber tired loader	1	6
San Fernando Gate Drainage Feature	2 days/2 days	8	4	Excavator	1	6
				Rubber tired loader	1	6
Upper San Fernando Drain Line	5 days/3 days	8	2	Excavator	1	6
				Rubber tired loader	1	6
Upper San Fernando Drain Line Feature 1	3 days/1 day	8	4[a]	Excavator[a]	1	6
				Rubber tired dozer[a]	1	6
				Rubber tired loader[a]	1	6
				Tractor/loader/backhoe	1	6
Upper San Fernando Drain Line Feature 2	1 day/1 day	4	2	Rubber tired dozer	1	6
Yarnell Debris Basin	1 day/1 day	4	0	Tractor/loader/backhoe	1	6
LAR UV Plant Drainage and V-Ditch	1 day/1 day	4	0	Tractor/loader/backhoe	1	6
San Fernando Creek	7 days/1 day	8	4[a] / 2	Excavator	1	6
				Rubber tired dozer	1	6
				Rubber tired loader	1	6
Lower San Fernando Detention Basin	6 days/6 days	4	0	Tractor/loader/backhoe	2	6
Bull Creek Extension (Sediment Basin)	2 days/2 days	8	2	Rubber tired loader	1	6
				Crane	1	6
Upper Northeast Drainage	1 day/1 day	8	2	Rubber tired loader	1	6
LAR North Dike Stormwater Basin	7 days/5 days	8	4	Excavator	1	6
				Rubber tired loader	1	6
East Channel	3 days/3 days	8	2	Tractor/loader/backhoe	1	6
				Rubber tired loader	1	6

Notes: LAR = Los Angeles Reservoir; UV = ultraviolet.
See Appendix A for details.
[a] Initial year only.

The proposed project would involve the use of internal combustion engines in off-road equipment, trucks, and worker vehicles, which would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The proposed project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Estimated maximum daily criteria air pollutant emissions from all on-site and off-site emission sources is provided in Table 3-3, Estimated Maximum Daily Project Emissions, and compared to the SCAQMD operational thresholds.

Table 3-3. Estimated Maximum Daily Project Emissions

Year	VOCs	NO_x	CO	SO_x	PM_{10}[a]	$PM_{2.5}$[a]
	Pounds per Day					
2018	0.89	9.43	7.57	0.02	26.16	2.80
2019 and thereafter	0.67	7.56	5.77	0.01	26.14	2.78
Maximum Daily Emissions	0.89	9.43	7.57	0.02	26.16	2.80
SCAQMD threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Source: SCAQMD 2015.
Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides; VOC = volatile organic compound.
See Appendix A for detailed results.
[a] These estimates reflect control of fugitive dust (watering twice daily and speed limit of 15 miles per hour) required by SCAQMD Rule 403 (SCAQMD 2005).

As shown in Table 3-3, daily emissions would not exceed the SCAQMD significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during proposed maintenance activities.

As discussed in Section 3.3(b), the SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$, and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. The proposed project would generate VOC and NO_x emissions (precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. However, as indicated in Table 3-3, project-generated emissions would not exceed the SCAQMD emissions-based operational significance thresholds for VOCs, NO_x, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a project were to occur concurrently with another off-site project. Schedules for potential future projects near the project area are currently unknown; therefore, potential impacts associated with two or more simultaneous projects would be considered speculative.[7]

[7] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145).

However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all sites in the SCAQMD.

Therefore, the proposed project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be **less than significant**.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-Than-Significant Impact. Localized project impacts are assessed below.

Sensitive Receptors

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include sites such as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

The proposed project would occur throughout the VNC. Residential land uses are located in close proximity to the project area, with the nearest residence approximately 350 feet to the west of San Fernando Creek.

Localized Significance Thresholds

The SCAQMD recommends a localized significance threshold (LST) analysis to evaluate localized air quality impacts to sensitive receptors in the immediate vicinity of the VNC as a result of proposed project activities. The impacts were analyzed using methods consistent with those in the SCAQMD's *Final Localized Significance Threshold Methodology* (2008). The project is located within Source-Receptor Area 7 (East San Fernando Valley). This analysis applies the SCAQMD LST values for a 1-acre site within Source-Receptor Area 7 with a receptor distance of 100 meters (330 feet), given that daily disturbed area for the proposed project would be less than 1 acre. This is conservative since the closest sensitive receptor is 350 feet away (107 meters).

Proposed maintenance activities would result in temporary sources of on-site criteria air pollutant emissions associated with off-road equipment exhaust and material handling activities. According to the Final Localized Significance Threshold Methodology, "off-site mobile emissions from the project should not be included in the emissions compared to the LSTs" (SCAQMD 2008). Trucks and worker trips associated with the proposed project are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways since emissions would be relatively brief in nature and would cease once the vehicles pass through the main streets. Therefore, off-site emissions from trucks and worker vehicle trips are not included in the LST analysis.

The maximum daily on-site emissions generated during maintenance of the proposed project for each year are presented in Table 3-4, Operation Localized Significance Thresholds Analysis, and compared to the SCAQMD localized significance criteria for Source-Receptor Area 7 to determine whether project-generated on-site emissions would result in potential LST impacts.

Table 3-4. Operation Localized Significance Thresholds Analysis

Year	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day (On Site)[a]			
2019	5.63	3.71	0.24	0.20
2020 and thereafter	5.12	3.68	0.21	0.18
Maximum Daily On-site Emissions	5.63	3.71	0.24	0.20
SCAQMD LST Criteria	*94*	*1,158*	*7*	*2*
Threshold Exceeded?	No	No	No	No

Source: SCAQMD 2008.
Notes: CO = carbon monoxide; LST = localized significance threshold; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); SCAQMD = South Coast Air Quality Management District.
See Appendix A for detailed results.
[a] Localized significance thresholds are shown for a 1-acre disturbed area corresponding to a distance to a sensitive receptor of 100 meters in Source-Receptor Area 7 (East San Fernando Valley).

As shown in Table 3-4, the proposed project would not generate emissions in excess of site-specific LSTs; therefore, localized impacts of the proposed project would be **less than significant**.

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." The transport of CO is extremely limited, as it disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (a level of service of E 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.

The Trip Generation Analysis for Vegetation Management and Maintenance Activities at the Van Norman Complex, LADWP technical memorandum (Dudek 2018) for the proposed project determined that it would generate less than 25 to 42 AM or PM peak-hour vehicle trips. Furthermore, traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the work area. All project

activities would occur on the VNC site and would not require any (temporary) closures to public streets. Due to the relatively low, and temporary, traffic volumes generated by the proposed project, it would not have a measurable impact on the adjacent street network, and therefore, would not create a significant traffic impact.

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. This conclusion is supported by the analysis in Section 3.17, Transportation, which demonstrates that traffic impacts would be less-than-significant. 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

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. As discussed under the LST analysis, the nearest sensitive receptors to the proposed project are residences located approximately 100 meters (330 feet) from the nearest work area. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends 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 (OEHHA 2015). In addition, some TACs have noncarcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) effects.[8] Diesel particulate matter is one TAC that would potentially be emitted during activities associated with the proposed project.

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. As described for the LST analysis and shown in Table 3-3, 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 a project. Thus, the duration of the proposed maintenance activities would only constitute a small percentage of the total 30-year exposure period. Due to this relatively short period of exposure (less than 14 days per site) and minimal particulate emissions on site, TACs generated by the proposed project would not result in concentrations

[8] 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 noncarcinogens from a project to published reference exposure levels that can cause adverse health effects.

sufficient to cause significant health risks. Overall, the proposed project would not result in substantial TAC exposure to sensitive receptors near the proposed project, and impacts would be **less than significant**.

Health Impacts of Criteria Air Pollutants

Operation of the proposed project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for 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 generally result in reduced lung function. Because the proposed project would not involve activities that would result in O_3 precursor emissions (i.e., VOCs or NO_x) that would exceed the SCAQMD thresholds, as shown in Table 3-3, the proposed project is not anticipated to substantially contribute to regional O_3 concentrations and its associated health impacts.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2. Exposure to NO_2 and NO_x can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. As shown in Table 3-3, proposed project operations would not exceed the SCAQMD NO_x threshold, and existing ambient NO_2 concentrations would be below the NAAQS and CAAQS. Thus, the proposed project is not expected to result in exceedances of the NO_2 standards or contribute to associated health effects.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, thereby reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. 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.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. 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. Particulate matter exposure has been linked 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 (EPA n.d.). As with O_3 and NO_x, and as shown in Table 3-2, the proposed project would not generate emissions of PM_{10} or $PM_{2.5}$ 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 nonattainment pollutants, and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Therefore, impacts would be **less than significant**.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-Than-Significant-Impact. The occurrence and severity of potential odor impacts depend on numerous factors. Factors that contribute to the intensity of the impact include the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receiving location. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions from the activities associated with the proposed project. Odors produced during the proposed project activities would be attributable to concentrations of unburned hydrocarbons from tailpipes of off-road equipment. Such odors would be temporary, dissipate relatively rapidly with distance, and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors from the proposed project would be **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. The proposed project would not result in the creation of a land use that is commonly associated with odors. Therefore, proposed project operations would result in an odor impact that would be **less than significant**.

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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?	☐	☒	☐	☐

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

The following analysis is based, in part, on the biological technical letter report (Appendix B, Biological Resources Report) that was completed for the project in September 2018. The biological technical letter report assessed the existing biological conditions and the potential biological impacts of the proposed project. As described in Chapter 2, Project Description, LADWP would implement AMMs as part of the proposed project to avoid or minimize adverse impacts to fish and wildlife resources during the proposed maintenance activities. A detailed description of the AMMs is included as Attachment G of Appendix B. The following provides a summary of each AMM:

- **AMM-BIO-1 Resource Protection:** A designated biologist shall be on site to monitor all ground- or vegetation-disturbing activities within sensitive habitat or aquatic areas, with the authority to halt or redirect activity to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. Additionally, this avoidance measure contains guidelines regarding maintenance restrictions in sensitive plant communities, conducting work outside of bird breeding/nesting season, conducting focused surveys, and protecting any species of concern that are present.

- **AMM-BIO-2 Habitat Protection:** In consultation with the designated biologist, the work area perimeter shall be demarcated to protect surrounding habitat, and maintenance activities shall take place during daylight hours only. No night work or lights would be authorized.
- **AMM-BIO-3 Placement of In-stream Structures:** When water is present, the designated biologist shall check daily for stranded aquatic life, and make all reasonable efforts to capture and relocate wildlife to the closest body of water adjacent to the work area. Any materials placed in the seasonally dry portions of a stream shall be removed, and no castings or spoil from excavation shall be placed on the stream side of the project area.
- **AMM-BIO-4 Turbidity and Siltation:** This avoidance measure contains guidelines and best management practices for erosion control, sediment and runoff control, and the treatment of contaminated water. Precautions shall be taken to minimize turbidity and siltation.
- **AMM-BIO-5 Equipment and Access:** Staging and storage areas for equipment and materials shall be located outside of the stream, in an area selected based on its lack of vegetation.
- **AMM-BIO-6 Pollution, Litter, and Cleanup:** This avoidance measure contains guidelines for equipment to be used during the proposed project including maintenance, refueling, and clean up equipment to avoid deleterious effects on aquatic and terrestrial life or riparian habitat. Pollutants and debris shall not be allowed to contaminate the soil, and all litter and pollution laws shall be complied with. In addition, the measure contains guidelines for appropriate trash disposal and removal of all temporary flagging, fencing, or barriers from the project area upon project completion.
- **AMM-BIO-7 Exotic Species Removal and Control**: This avoidance measure contains guidelines and best management practices for exotic species removal and control, to prevent the introduction, transfer, and spread of invasive species, including plants, animals, and microbes.

The study area for the biological technical letter report included the proposed work areas within the existing facilities, and a 500-foot buffer around the work areas (Figure 4, Biological Resources 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 Impact with Mitigation Incorporated. Several biological field surveys were conducted within the VNC between May 2018 and July 2018, including general plant and wildlife surveys, vegetation mapping, habitat assessment for special-status species, and focused surveys for special-status and or regulated species. Additionally, a review of pertinent literature regarding special-status biological resources present or potentially present within the VNC was conducted. The project area includes developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation. The work areas occur within or around channels, drainages, and catch basins, where accumulating sediment or overgrown vegetation

limits proper functioning of VNC drainage facilities. The surrounding area is dominated by disturbed and developed land associated with routine utility operations at the VNC.

Special-Status Plants

No special-status plant species were observed during general biological reconnaissance surveys. All special-status species identified in the literature review were determined to either have a low potential to occur or were not expected to occur based on an assessment of habitat within the project area. Therefore, **no impacts** to special-status plant species would occur.

Special-Status Wildlife

There are five listed wildlife species that have a potential to occur within the project area: least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and Swainson's hawk (*Buteo swainsoni*). The federally and state-endangered least Bell's vireo was confirmed present during focused surveys. The federally threatened coastal California gnatcatcher and the federally and state-endangered southwestern willow flycatcher were not detected during focused protocol surveys for these species, and it was determined that there is a low potential for them to occupy the project area in the future. Yellow-billed cuckoo is presumed extirpated from the project area. The state-listed threatened Swainson's hawk has a low potential to occur. Due to presence of least Bell's vireo, potential impacts to special-status wildlife species could be potentially significant. Impacts to least Bell's vireo are discussed in terms of potential direct and indirect impacts to individuals and to habitat. Direct impacts to individuals could include collisions with maintenance equipment or destruction of nests during maintenance activities should maintenance activities occur during the breeding season. Indirect impacts could result from an increase in noise, dust, and pollution during maintenance activities that would negatively impact nest success. As previously discussed, AMMs would be implemented by LADWP to avoid or minimize the effects of adverse impacts to wildlife resources. The proposed project would implement AMM-BIO-1, Resource Protection, which includes avoidance of nesting birds by conducting maintenance outside of nesting bird season or, if nesting bird season cannot be avoided, conducting pre-activity surveys with avoidance of the nest and a suitable buffer if nests are present. AMM-BIO-1 includes pre-activity surveys within 1 week prior to start of work. Should special-status species be detected, LADWP would develop and implement a plan for the protection of these species. Indirect impacts to special-status species would be minimized through implementation of AMM-BIO-2, Habitat Protection, which avoids conducting proposed maintenance activities at night, and AMM-BIO-6, Pollution, Litter, and Cleanup, which includes best management practices for managing spills, leaks, and trash.

As discussed in Appendix B and summarized in Table 3-5, Impacts to Suitable and Occupied Least Bell's Vireo Habitat, the proposed project would impact riparian habitat suitable for least Bell's vireo. Within the Upper Debris

Basin, Middle Debris Basin, and Lower San Fernando Debris Basin, impacts to riparian vegetation would be temporary, as the vegetation would have the opportunity to regenerate in between proposed maintenance events. Impacts to riparian vegetation within all other facilities would be permanent. Impacts to least Bell's vireo riparian habitat is a significant impact requiring mitigation in addition to the AMMs in place. Mitigation Measure (MM)-BIO-1, Mitigation for Impacts to Least Bell's Vireo Habitat, requires habitat preservation, enhancement, and/or creation of habitat and coordination with CDFW and USFWS to mitigate impacts to least Bell's vireo habitat. With implementation of MM-BIO-1, impacts to listed species would be **less than significant**.

Table 3-5. Impacts to Suitable and Occupied Least B**ell's** Vireo Habitat

Vegetation Community	Permanent Impact to Unoccupied Suitable LBVI Habitat (acres)	Temporary Impacts		
		Occupied LBVI Habitat (acres)	*Suitable LBVI Habitat (acres)*	*Total Temporary Impacts (acres)*
Lower San Fernando Detention Basin	—	—	—	6.55
Arroyo willow thickets	—	—	0.36	—
Mulefat thickets	—	0.08	0.15	—
Fremont cottonwood forest	—	—	3.66	—
Red willow thickets	—	0.03	2.27	—
Upper Debris Basin	—	—	—	1.51
Mulefat thickets	—	0.12	0.07	—
Red willow–arroyo willow/mulefat	—	0.34	0.03	—
Sandbar willow	—	—	0.68	—
LAR UV Plant Drainage Feature	—	—	—	—
Arroyo willow thickets	0.02	—	—	—
Fremont cottonwood/sandbar willow	0.15	—	—	—
San Fernando Creek	—	—	—	—
Red willow thickets	0.25	—	—	—
Red willow–arroyo willow	0.78	—	—	—
Upper San Fernando Drain Line	—	—	—	—
Red willow thickets	0.24	—	—	—
Red willow–arroyo willow/mulefat	0.35	—	—	—
Upper San Fernando Drain Line Feature 1	—	—	—	—
Red willow–arroyo willow/mulefat	0.94	—	—	—
Upper San Fernando Drain Line Feature 2	—	—	—	—
Arroyo willow thickets	0.08	—	—	—
Total	2.81	0.57	7.49	8.06

Notes: LBVI = least Bell's vireo; LAR = Los Angeles Reservoir; UV = ultraviolet.

Non-Listed Wildlife Species

Four non-listed wildlife species have a moderate potential to occur within the project area: Blainville's horned lizard (*Phrynosoma blainvillii*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), loggerhead shrike (*Lanius ludovicianus*), and Cooper's hawk (*Accipiter cooperii*). The state fully protected white-tailed kite (*Elanus leucurus*) has a low potential to occur within the project area. Direct impacts could include crushing of low-mobility species during grading, collisions with maintenance equipment, and destruction of bird nests during maintenance activities. Direct impacts to these species would be avoided through implementation of AMM-BIO-1, which includes monitoring by a designated biologist of all ground-disturbing maintenance activities, as well as the relocation of non-listed, special-status, ground-dwelling vertebrates out of harm's way to the extent feasible. AMM-BIO-1 also includes avoidance of nesting birds. Potential indirect impacts would be minimized as previously described, with implementation of AMM-BIO-2 and AMM-BIO-6. With implementation of AMM-BIO-1, AMM-BIO-2, and AMM-BIO-6, impacts to non-listed wildlife species would be **less than significant**.

Nesting Birds

One red-tail hawk nest was observed within the project area during the survey efforts. Additionally, all of the project area includes suitable habitat for nesting bird species. Proposed maintenance activities could result in direct and indirect impacts to other nesting birds, including the loss of nests, eggs, and fledglings, if vegetation clearing and ground-disturbing activities occur during the avian nesting season (typically January 1 through August 31). Implementation of AMM-BIO-1, which includes avoidance measures for nesting birds, would result in **less-than-significant impacts** to nesting birds.

MM-BIO-1 Removal or disturbance of habitat suitable for least Bell's vireo shall be conducted outside the typical nesting period for this species (approximately March 15 through August 15). Mitigation for permanent impacts to habitat shall be at a ratio of 1:1, or as otherwise determined by applicable resource agency permits. Mitigation shall be a combination of habitat preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency approved permittee responsible mitigation project.

Prior to removal or disturbance of suitable and/or occupied least Bell's vireo habitat, and presuming there is risk of "take" under federal or state law, the Los Angeles Department of Water and Power (LADWP) shall consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service on implementation of this mitigation measure (MM-BIO-1) and other minimization and avoid measures as necessary to avoid "take." If "take" is unavoidable, LADWP shall secure the appropriate incidental take authorization or permit under Section 7 of the federal Endangered Species Act and Section 2081 of the California Endangered Species Act. Any measures determined to be necessary through the Section 7 or Section 2081 shall be implemented.

With implementation of AMM-BIO-1, AMM-BIO-2, AMM-BIO-6, and MM-BIO-1, impacts related to special-status species would be **less than significant**.

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?

Less-Than-Significant Impact. The project area includes developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation that occurs along the project area. Special-status vegetation communities include those that are designated by CDFW as a rank of S1, S2, or S3. In addition, communities that are regulated by CDFW under Sections 1600–1616 of Fish and Game Code and/or communities that provide suitable habitat for special-status species may also be considered special status under CEQA. Impacts to these communities are summarized in Table 3-6, Impacts to Special-Status Communities.

Table 3-6. Impacts to Special-Status Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		Total Temporary Impacts (acres)
	CDFW Rank S1, S2, or S3 And Suitable for LBV (acres)	*Not Ranked S1, S2, or S3 by CDFW*		*Total Permanent Impacts (acres)*	*CDFW Rank S1, S2, or S3 and Suitable for LBV (acres)*	*Not Ranked S1, S2, or S3 by CDFW and Suitable for LBV (acres)*	
		Suitable for LBV (acres)	*Not Suitable for LBV (acres)*				
Not CDFW Streambed							
Arroyo willow thickets	—	0.02	—	0.02	—	—	—
Fremont cottonwood forest	—	—	—	—	3.66	—	3.66
Mulefat thickets	—	—	—	—	—	0.15	0.15
Subtotal	—	*0.02*	—	*0.02*	*3.66*	*0.15*	*3.81*
CDFW Vegetated Streambed							
Arroyo willow thickets	—	0.08	—	0.08	—	0.36	0.36
Cattail marshes	—	—	1.57	1.57	—	—	—
Fremont cottonwood forest	—	—	—	—	—	—	—
Fremont cottonwood/sandbar willow	0.15	—	—	0.15	—	—	—
Mulefat thickets	—	—	—	—	—	0.54	0.54
Red willow thickets	0.48	—	—	0.48	2.30	—	2.30

Table 3-6. Impacts to Special-Status Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		Total Temporary Impacts (acres)
	CDFW Rank S1, S2, or S3 And Suitable for LBV (acres)	*Not Ranked S1, S2, or S3 by CDFW*		*Total Permanent Impacts (acres)*	*CDFW Rank S1, S2, or S3 and Suitable for LBV (acres)*	*Not Ranked S1, S2, or S3 by CDFW and Suitable for LBV (acres)*	
		Suitable for LBV (acres)	*Not Suitable for LBV (acres)*				
Red willow–arroyo willow association	0.78	—	—	0.78	—	—	—
Red willow–arroyo willow/mulefat thickets association	1.30	—	—	*1.30*	*0.37*	—	1.36
Sandbar willow	—	—	—	—	—	0.68	0.68
Subtotal	*2.71*	*0.08*	*1.57*	*4.36*	*2.67*	*1.58*	*5.24*
Total	2.71	0.10	1.57	4.38	6.33	1.73	8.06

Notes: CDFW = California Department of Fish and Wildlife; LBV = least Bell's vireo.

Direct impacts to special-status vegetation communities would include removal due to sediment clearing and vegetation management. As described in the project description, maintenance of riparian habitat would be limited to every 3 years; therefore, impacts within the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Debris Basin would be temporary, as vegetation would have the opportunity to regenerate in between maintenance events. Additionally, maintenance activities within blue elderberry stands would be limited to hand pruning of the lower limbs of the trees and maintenance of the understory. Therefore, maintenance activities within 4.3 acres of blue elderberry stands would not result in impacts to this community. Impacts to special-status communities within all other facilities would be permanent. Loss of special-status vegetation communities is potentially significant; however, the special-status communities overlap with suitable least Bell's vireo habitat and/or CDFW jurisdictional streambeds that would be mitigated through implementation of MM-BIO-1 and MM-BIO-2, respectively.

Monitoring would be conducted as described under AMM-BIO-1 to confirm that timing limitations within special-status communities would be implemented, as outlined in the project description and AMMs. Implementation of AMM-BIO-7, which identifies removal of non-native species, would ensure native species have the opportunity to regrow within maintained areas. Additional direct impacts could also result from inadvertent removal of special-status vegetation communities outside of designated work areas. The potential for inadvertent impacts outside of the work area would be minimized through implementation of AMM-BIO-2, which includes demarcating the perimeter of the work area to prevent damage to adjacent habitat.

Indirect impacts to vegetation communities include impacts from the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species. Indirect impacts to special-status vegetation communities would be minimized through implementation of AMM-BIO-6, which includes best management practices for managing spills, leaks, and trash, and AMM-BIO-7, Exotic Species Removal and Control, which identifies methods implemented for removing and managing invasive species.

With implementation of AMM-BIO-1, AMM-BIO-2, AMM-BIO-6, AMM-BIO-7, and MM-BIO-1, impacts to special-status vegetation and riparian communities would be **less than significant**.

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

Less-Than-Significant Impact with Mitigation Incorporated. The jurisdictional delineation conducted on behalf of LADWP identified 17.47 acres throughout the VNC that is potentially subject to regulation by the U.S. Army Corps of Engineers under Clean Water Act Section 404 and the RWQCB under Clean Water Act Section 401 because this acreage meets the definition of Waters of the United States pursuant to the final rule titled Clean Water Rule: Definition of "Waters of the United States," published at 80 FR 37104 (June 29, 2015) ("2015 Rule") and codified in 33 Code of Federal Regulations (CFR) 328 (2015). Of the 17.47 acres, 11.44 acres is potentially jurisdictional wetlands. An additional 4.60 acres in the VNC that exhibits aquatic characteristics is not subject to regulation by the U.S. Army Corps of Engineers under Clean Water Act Section 404 because this acreage is explicitly excluded from the definition of Waters of the United States under the 2015 Rule, as codified in 33 CFR 328.3(b) (2015). None of the areas within this acreage exhibits wetland characteristics.

See Figures 5A–5K, Jurisdictional Delineation, for the location and extent of waters of the United States within the project area. The delineation also identified areas under the potential jurisdiction of CDFW.

Table 3-7, Temporary Impacts to Potential Waters of the Unites States and State, and Table 3-8, Potential Impacts to Jurisdictional Streambed, summarize potential impacts to potential waters of the United States, waters of the state, and areas under CDFW jurisdiction. The approximate acreages of potential jurisdictional waters are subject to concurrence by the Resource Agencies. Given that a portion of the project area is located within jurisdictional waters, MM-BIO-3 would be required so the proposed project does not adversely affect protected wetlands and waters, and if it does, to ensure that the appropriate level of compensatory mitigation is provided to offset such impacts. Therefore, with the incorporation of mitigation, impacts associated with federally or state protected wetlands would be **less than significant**.

Table 3-7. Temporary Impacts to Potential Waters of the Unites States and State

	Non-Wetland Waters (acres)	Wetland Waters (acres)	Total (acres)
Potential Waters of the United States			
Upper Debris Basin	1.20	0.0	1.20
Middle Debris Basin	2.91	0.0	2.91
Bee Canyon Drainage	0.20	0.0	0.20
Upper San Fernando Drain Line	0.0	0.46	0.46
Upper San Fernando Drain Line Feature 1	0.0	0.48	0.48
Yarnell Drainage	0.16	0.0	0.16
Yarnell Drainage Wetlands	0.16	3.04	3.20
Earthen Channel within LSFDB	0.0	0.74	0.74
Upper Northwest Drainage	0.14	0.0	0.14
Lower Northwest Drainage	0.13	0.0	0.13
Upper Northeast Drainage	0.13	0.0	0.13
Northeast Drainage	0.20	0.0	0.20
Upper Southeast Drainage	0.10	0.0	0.10
Lower Southeast Drainage	0.29	0.0	0.29
San Fernando Creek	0.30	0.32	0.62
Subtotal	5.92	5.01	10.93
Potential Waters of the State			
San Fernando Gate Drainage Ditch	0.20	0.0	0.20
Upper San Fernando Drain Line Feature 2	0.03	0.0	0.03
Upper Yarnell Drain Line	0.34	0.0	0.34
East Channel	3.26	0.0	3.26
East Channel Erosional Gully 1	0.11	0.0	0.11
East Side Erosional Gully 2	0.08	0.0	0.08
LAR Reservoir North Dike Storm Water Basin	0.33	0.0	0.33
LAR UV Plant Drain Line	0.25	0.0	0.25
Subtotal	*4.60*	*0.0*	*4.60*
Total	10.52	5.01	15.53

Notes: LSFDB = Lower San Fernando Detention Basin; LAR = Los Angeles Reservoir; UV = ultraviolet.

Table 3-8. Potential Impacts to Jurisdictional Streambed

Facility Name Vegetation Community/Land Cover	Temporary Impacts to Non-Riparian Waters	Temporary Impacts To Riparian Vegetation	Permanent Impacts To Riparian Vegetation		
			CDFW Type		Total Permanent Impact (acres)
			Herbaceous Riparian Habitat (acres)	*Riparian (acres)*	
Upper Debris Basin	0.78	0.75	—	—	—

Table 3-8. Potential Impacts to Jurisdictional Streambed

Facility Name Vegetation Community/Land Cover	Temporary Impacts to Non-Riparian Waters	Temporary Impacts To Riparian Vegetation	Permanent Impacts To Riparian Vegetation		
			CDFW Type		Total Permanent Impact (acres)
			Herbaceous Riparian Habitat (acres)	*Riparian (acres)*	
Mulefat thickets	—	0.07	—	—	—
Sandbar willow	—	0.68	—	—	—
Unvegetated drainage	0.78	—	—	—	—
Middle Debris Basin	2.16	0.94	—	—	—
Giant reed breaks	—	0.19	—	—	—
Mulefat thickets	—	0.39	—	—	—
Red willow-arroyo willow/mulefat	—	0.37	—	—	—
Unvegetated drainage	2.16	—	—	—	—
LSFDB/East Channel Earthen Extension	—	0.74	—	—	—
Red willow thickets	—	*0.74*	—		
LSFDB/East Channel (Riprap)	—	*0.35*	—	—	—
Red willow thickets	—	*0.35*	—	—	—
LSFDB/Lower Southeast Drainage	0.32	0.44	—	—	—
Arroyo willow thickets	—	*0.36*	—	—	—
Disturbed habitat	*0.19*	—	—	—	—
Mulefat thickets	—	*0.08*	—	—	—
Unvegetated Drainage	*0.11*	—	—	—	—
Upland mustards	*0.01*	—	—	—	—
LSFDB/Northeast Drainage	0.22	0.98	—	—	—
Red willow thickets	—	0.98	—	—	—
Brittle bush scrub	0.20	—	—	—	—
Upland mustards	0.02	—	—	—	—
LSFDB/Upper Northeast Drainage	0.13	—	—	0.01	0.01
Brittle bush scrub	0.01	—	—	—	—
California sagebrush scrub	0.04	—	—	—	—
Fremont cottonwood forest	—	—	—	*0.01*	—
Unvegetated drainage	0.08	—	—	—	—
LSFDB/Upper Southeast Drainage	0.11	—	—	—	—
Upland mustards	0.11	—	—	—	—
LSFDB/Western Channel	—	0.23	—	—	—
Red willow thickets	—	0.23	—	—	—
Bee Drainage Channel	0.14	—	—	—	—
Concrete-lined channel	0.03	—	—	—	—

Table 3-8. Potential Impacts to Jurisdictional Streambed

Facility Name Vegetation Community/Land Cover	Temporary Impacts to Non-Riparian Waters	Temporary Impacts To Riparian Vegetation	Permanent Impacts To Riparian Vegetation		
			CDFW Type		Total Permanent Impact (acres)
			Herbaceous Riparian Habitat (acres)	*Riparian (acres)*	
Unvegetated drainage	0.11	—	—	—	—
San Fernando Gate Drain	0.33	—	—	—	—
Concrete-lined channel	*0.17*	—	—	—	—
Unvegetated drainage	*0.16*	—	—	—	—
Upper San Fernando Drain Line	0.14	—	1.61	0.35	1.96
Cattail marshes	—	—	1.37	—	—
Concrete-lined channel	0.03	—	—	—	—
Giant reed breaks	0.08	—	—	—	—
Red willow thickets	—	—	0.24	—	—
Red willow-arroyo willow/mulefat	—	—	—	0.35	—
Unvegetated drainage	0.03	—	—	—	—
Upper San Fernando Drain Line Feature 1	—	—	0.20	0.94	1.14
Cattail marshes	—	—	0.20	—	—
Red willow-arroyo willow/mulefat	—	—	—	0.94	—
Upper San Fernando Drain Line Feature 2	—	—	—	0.08	0.08
Arroyo willow thickets	—	—	—	0.08	—
LAR UV Plant Drainage Feature	0.08	—	—	0.15	0.15
Fremont cottonwood/sandbar willow	—	—	—	0.15	—
Unvegetated drainage	0.08	—	—	—	—
San Fernando Creek	0.14	—	—	1.03	1.03
Concrete-lined channel	0.14	—	—	—	—
Red willow thickets	—	—	—	0.25	—
Red willow-arroyo willow	—	—	—	0.78	—
Total Impacts	4.55	4.43	1.81	2.55	4.36

Notes: CDFW = California Department of Fish and Wildlife; LSFDB = Lower San Fernando Detention Basin; LAR = Los Angeles Reservoir; UV = ultraviolet.

Potential indirect impacts to jurisdictional waters could result from accidental release of chemicals and pollutants from maintenance vehicles, waste and debris being washed downstream, turbidity and siltation, and the adverse effects of invasive plant species. Indirect impacts to jurisdictional waters would be minimized through implementation of AMM-BIO-3, which provides for avoidance of placement of materials in seasonally dry portions of a stream; AMM-BIO-4, which identifies best management practices for erosion control and for minimizing turbidity and siltation; AMM-BIO-5, which provides for location of staging and storage areas

outside of streams; AMM-BIO-6, which includes best management practices for managing spills, leaks, and trash; and AMM-BIO-7, Exotic Species Removal and Control, which identifies methods to be implemented for removing and managing invasive species.

MM-BIO-2 In consultation with the U.S. Army Corps of Engineers, the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW), LADWP shall acquire the appropriate permits and approvals (i.e., Section 404 permit [U.S. Army Corps of Engineers], Section 401 permit [Regional Water Quality Control Board], Streambed Alteration Agreement [CDFW]) to address potential temporary and/or permanent impacts to jurisdictional waters if it is deemed required by any of these agencies. Compensatory mitigation for temporary and/or permanent impacts shall be implemented at a minimum ratio of 1:1 and as mutually agreed upon by the Resource Agencies and the Los Angeles Department of Water and Power (LADWP), and would include a combination of preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency-approved permittee responsible mitigation project. Either of these options would result in no net loss of jurisdictional aquatic resources.

With incorporation of MM-BIO-2, AMM-BIO-3, AMM-BIO-4, AMM-BIO-5, and AMM-BIO-6, potential impacts to wetlands and waters would be **less than significant**.

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 Impact. Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping stones for wildlife dispersal. Due to developed nature of the project area, the VNC has very low potential to facilitate wildlife movement or function as a habitat linkage. The project area is surrounded on all sides by development, though undeveloped open space occurs to the north. As such, the project area does not function as a wildlife corridor and does not support any wildlife nursery sites. Therefore, impacts associated with wildlife movement or nursery sites would be **less than significant**.

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

No Impact. Ordinance 177404 of the Los Angeles Municipal Code regulates the relocation and replacement of protected trees. Protected trees include oak (*Quercus* spp.), Southern California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) trees that measure 4

inches or more in cumulative diameter at 4.5 feet above the ground level at the base of the tree (City of Los Angeles 2006). There were no tree species defined as protected trees by the Municipal Code observed within the project area. There are no other local ordinances or codes relevant to biological resources; therefore, the project is consistent with local policies and ordinances and **no impacts** would occur.

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 proposed project does not overlap any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan; therefore, the proposed project would not be in conflict with any such plans and **no impacts** would occur.

Reference

City of Los Angeles. 2006. Los Angeles Municipal Code Ordinance 177404. Approved March 13, 2006. Accessed September 2018. http://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf.

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 pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

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

No Impact. No previously recorded or new cultural resources were identified within the project area of potential effect. Previously recorded cultural resources (regardless of eligibility/listing in the National Register of Historic Places/California Register of Historical Resources) were not found. The proposed project is to conduct annual vegetation and debris removal within active earthen-bottom and concrete-lined channels. Based

on these proposed activities and the lack of identified historic properties, no effects to historic properties were identified, and **no impacts** are likely to occur during the proposed maintenance activities.

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

Less-Than-Significant Impact with Mitigation Incorporated. On April 30, 2018, a search was completed of the California Historical Resources Information System at the South Central Coastal Information Center, located on the campus of California State University, Fullerton. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Additional consulted sources included historical maps of the project area; the National Register of Historic Places; the California Register of Historical Resources; 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.

Previously Conducted Cultural Resource Studies

The South Central Coastal Information Center records indicate that 72 previous cultural resources technical investigations have been conducted within 1 mile (1,608 meters) of the project area between 1971 and 2012. Of these, 10 previous studies have been conducted overlapping a portion the project area, one previously conducted study intersects the project area, and three studies are adjacent to the project area. All 72 technical investigations are summarized in Table 3-9, Previous Technical Studies Within the 1-Mile Search Buffer.

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00014	Kelly, Roger E.	1973	Assessment of the Archaeological Resources and the Impact of Development of Highway 118 From Desoto Avenue to the San Diego Freeway in the San Fernando Valley	Outside
LA-00033	Anonymous	1974	Impact Assessment of Archaeological Resources by the Construction of Palmdale Maintenance Stations	Outside
LA-00051	Kelly, Roger E., and Gerald R. Gates	1974	Cultural Resources of Los Angeles Reservoir, City of Los Angeles	Overlap
LA-00097	Gates, Gerald R.	1975	Report on the Salvage Excavation of CA-Lan-493 and CA-LAn-645 Located in the Van Norman Reservoir Complex, City of Los Angeles	Overlap
LA-00368	Raab, Mark L.	1988	Report of Archaeological Reconnaissance Survey Of: the Proposed Metropolitan Water District of Southern California Joseph Jensen Filtration Plant Expansion	Adjacent

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00486	Unavailable	1977	Archaeological Survey Report on Eighty (80) Acres Located in the Granada Hills Area of the County of Los Angeles	Outside
LA-00487	Fontaine, Keith J. Lee	1977	Archaeological Field Test Report on Archaeological Site CA-LAN-786 Located in the Granada Hills Area of the County of Los Angeles	Outside
LA-00818	Gates, Gerald R.	1973	Archaeological Resources of the Van Norman Reservoir Area a Preliminary Report	Overlap
LA-01001	Schroth, Adella	1981	Archaeological Assessment of the Southeast Area Economic Development Project, City of Glendora, Los Angeles County, California	Outside
LA-01018	Singer, Clay A.	1980	Cultural Resource Survey and Impact Assessment for Tentative Tract No. 37743, Near the Community of San Fernando, Los Angeles County, California	Outside
LA-01044	McIntyre, Michael J.	1977	Assessment of the Impact Upon Cultural Resources by the Proposed Development of O'Melveny (bee Canyon) Park, Granada Hills	Outside
LA-01113	McIntyre, Michael J.	1976	Assessment of the Archaeological Impact by the Proposed Development of Tract No. 3d3287	Outside
LA-01151	Rechtman, Robert B., and Richard D. Aycock	1982	An Archaeological Resource Survey and Impact Report Assessment of a 9-Acre Parcel, Eastern Holy Cross Property, Los Angeles County, California	Outside
LA-01154	Colby, Susan M.	1982	An Archaeological and Resource Survey and Impact Assessment of Site D in the City of Los Angeles, California	Outside
LA-01432	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of Northern Parcels of Holy Cross Hospital Property, Mission Hills, Los Angeles County, California	Outside
LA-01464	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of a 10+ Acre Parcel at 10105 Mission Hills Road, Los Angeles County, California	Outside
LA-01510	White, Robert S.	1986	Archaeological Survey Report: The Sunset Farms Property, City of Los Angeles	Outside
LA-01730	Clewlow, William C. Jr.	1978	Archaeological Report Status of LAN-816 in Sunshine Canyon	Outside
LA-01847	Salls, Roy A.	1989	Report of Archaeological Reconnaissance Survey Of:44622, Lots 8, 11, and 12 15900 Valley View Court, Sylmar, California Tract	Outside
LA-01981	Garfinkel, Alan P.	1972	The Andres Pico Adobe: A Research Proposal	Outside

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-02006	Briuer, Frederick L.	1976	Assessment of the Archaeological Impact of the Proposed Zone Change of the 5-Acre Lot on Olden Street in Sylmar City of Los Angeles	Outside
LA-02083	Eberhart, Hal	1975	Draft Environmental Impact Report	Outside
LA-02095	Salls, Roy A.	1990	Report of Archaeological Reconnaissance Survey of Parcel C Parcel. Map No. L.a. 4587 Ga Project No. 8926 13258 Ralston Avenue, Sylmar, California 9134	Outside
LA-02231	Chartkoff, Joseph, and Kerry Chartkoff	1966	University of California Los Angeles - Archaeological Survey Field Project Number Ucas-081-b Highway Construction Survey Vii-la-5-p.m. 43.4–45.6	Outside
LA-02371	Walker, Edwin F.	1936	A Ceremonial Site at Porter Ranch, San Fernando	Outside
LA-02402	Foster, John M., and Robert J. Wlodarski	1983	A Burial From the Van Norman Reservoir	Overlap
LA-02488	Knight, Albert	1991	The Andres Pico Adobe	Outside
LA-02517	Wlodarski, Robert J.	1991	A Phase 1 Archaeological Study for Eight Areas Proposed for the New Los Angeles Police Training Academy, and Driver Training Facility, City of Los Angeles County, California	Overlap
LA-02526	Gamble, Lynn H.	1985	Letter Report: The Montevideo Country Club Project Planned for Topanga Canyon	Outside
LA-02540	Kaptain, Neal	1991	Cultural Resource Investigation Survey of Service Connection La-35 Joseph Jenson Filtration Plant Granada Hills, California	Outside
LA-02683	Engineering Science	1992	Draft Environmental Impact Report – Police Bond Program, Police Driver Training Facility	Overlap
LA-02892	Stone, David, and Robert Sheets	1993	Phase I Archaeological Survey Report Pacific Pipeline Project Santa Barbara Coastal Reroutes Ethnohistoric Village Placement Locations	Outside
LA-02950	Anonymous	1992	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Outside
LA-03009	Knight, Albert	1994	Damages to and Losses of Cultural Resources in Los Angeles County, California During the Riots, Fire Storms and Earthquakes of 1992–1994	Outside
LA-03289	Davis, Gene	1990	Mobil M-70 Pipeline Replacement Project Cultural Resource Survey Report for Mobil Corporation	Outside
LA-03587	King, Chester	1994	Prehistoric Native American Cultural Sites in the Santa Monica Mountains	Overlap

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-03670	Getchell, Barbie Stevenson, and John E. Atwood	1997	Cultural Resources Monitoring for the Stranwood Avenue to Sepulveda Boulevard Drain Project Located in the Community of Mission Hills, Los Angeles County, California	Outside
LA-04072	King, Chester	1995	Letter of August 20, 1995, to Colonel Rogers	Outside
LA-04088	Walker, Edwin Francis	1952	A Metate Site at San Fernando – (excerpt from) Five Prehistoric Archaeological Sites in Los Angeles County, California	Outside
LA-04104	Macko, Michael E.	1993	Cultural Resource Evaluation of the LADWP Power Plant 1--Olive Line 1 Transmission Line Maintenance Project Los Angeles County, California	Outside
LA-04107	York, Andrew L., and Gene Davis	1991	B1r Route Variation Supplement and Templin Hwy Supplement to Mobile M-70 Pipeline Replacement Project Cultural Resources Survey Report	Adjacent
LA-04403	Duke, Curt	1999	Cultural Resource Assessment for the AT&T Wireless Services Facility Number R109.1, Located at the Interstate 5 and Interstate 405 Interchange, City of San Fernando, County of Los Angeles, California	Outside
LA-04499	Slawson, Dana N.	1998	Historical Resource Investigation for Health Structures Tract 52539	Outside
LA-04582	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 823-03, County of Los Angeles, California	Outside
LA-04766	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 219-01, County of Los Angeles, California	Outside
LA-05174	Iverson, Gary	1999	Negative Archaeological Survey Report: 20180k	Outside
LA-05543	Duke, Curt	2001	Cultural Resource Assessment: Cingular Wireless Facility No. Vy 101-01 Los Angeles County, California	Outside
LA-06997	Foster, John M.	2002	Archaeological Investigation for Northeast Valley Animal Shelter (Stranwood) Task ID No. Nev002 City of Los Angeles, California	Outside
LA-07008	Unknown	2002	Los Angeles Unified School District Site Expansion of Kennedy High School Facilities Located at 11254 Gothic Avenue, Granada Hills in the City of Los Angeles	Outside
LA-07082	Milburn, Douglas H.	2003	Archaeological Investigation at CA-LAN-1209/h, Cooper Creek Site, Northern San Gabriel Mountains, Los Angeles County, California	Outside

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-07165	Thal, Erika	2005	CA-6392a/Chips Telecommuunications12000 Blucher Avenue, Granada Hills, CA, Los Angeles County	Outside
LA-08255	Arrington, Cindy, and Nancy Sikes	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	Outside
LA-08839	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate Sv00871a (Global Signal Monopine), 12690 North Balboa Boulevard, Granada Hills, Los Angeles County, California	Outside
LA-09068	Bonner, Wayne H.	2003	Cultural Survey Results for Cingular Wireless Facility Candidate Vy-351-01 (Woodley/Balboa), 13000 North Balboa Blvd., Granada Hills, Los Angeles County, California	Outside
LA-09586	Bonner, Wayne H.	2008	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate SV00875A(XR) (Knolwood Country Club), Granada Hills, Los Angeles County, California	Outside
LA-10003	Foster, John M.	2004	An Extended Phase I Archaeological Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10004	Foster, John M.	2005	Archaeological Monitoring Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10010	Maki, Mary K.	2004	Archaeological Record Search Results for the Cascades Business Park Project, Sylmar, Los Angeles County, California	Outside
LA-10179	Smith, Phil and Gary Iverson	2000	Highway Project Description – 1Y0201	Adjacent
LA-10642	Tang, Bai "Tom"	2010	Preliminary Historical/Archaeological Resources Study, Antelope Valley line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California	Outside
LA-10961	Abdo-Hintzman, Kholod, M. Colleen Hamilton, and Keith Warren	2010	Archaeological Phase III Data Recovery at Mission San Fernando for the Brand Park Community Center. Mission Hills, San Fernando Valley, California	Outside
LA-11086	Wlodarski, Robert J.	2009	Aviation/Artesia - LAR090 1765 Artesia Boulevard, Manhattan Beach, CA 90266	Outside
LA-11186	Wallace, James R., and Sara Dietler	2011	Archaeological Monitoring Report and Assessment for the Van Norman Chlorination Stations Nos. 1 and 2, Los Angeles, California	Overlap

Table 3-9. Previous Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-11606	Maxon, Patrick	2011	Phase I Cultural Resources Assessment, Sylmar Ground Return Replacement Project, Los Angeles County, California	Intersecting
LA-11663	Watson, Tracy	2012	McDonald's Restaurant No. 834 Wireless Antenna Indoor Installation 11015 Sepulveda Boulevard Mission Hills, Los Angeles County, California	Outside
LA-11664	Loftus, Shannon	2011	Cultural Resource Records Search and Site Survey, AT&T Site LA0609 (44468) I-5 Fwy/I-405 Fwy Interchange 12000 North Blucher Avenue, Granada Hills, Los Angeles County, California 91344	Outside
LA-11818	Dietler, Sara, Linda Kry, and Heather Gibson	2012	Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project City of Los Angeles, California	Overlapping
LA-12526	Ehringer, Candace, Katherine Ramirez, and Michael Vader	2013	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	Outside
LA-12635	Millington, Chris, Sara Dietler, Brandi Shawn, and Heather Gibson	2014	Cultural Resources Monitoring Report for the San Fernando Substation Grounding Rods and Lateral Installation Project (IO329985) Mission Hills, City of Los Angeles, Los Angeles County, California	Outside
LA-12766	Strudwick, Ivan	2013	Results of Cultural Resource Monitoring at the Andres Pico Adobe, 10940 Sepulveda Boulevard, City and County of Los Angeles, California	Outside
LA-12946	Holloway, Charles, and Hal Messinger	2009	Mitigated Negative Declaration, Los Angeles Aqueduct Filtration Plant Disinfection Contact Tank Project	Overlap
LA-13030	Bonner, Diane F., and Carrie D. Wills	2014	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CLV4082 (Filbert Tower), 16397 Filbert Street, Sylmar, Los Angeles County, California, CASPR No. 3551699410	Outside

Previously Recorded Cultural Resources

South Central Coastal Information Center records indicate that 35 resources have been recorded within 1 mile (1,608 meters) of the project area, including 13 historic resources, 12 prehistoric resources, eight multicomponent resources, and two sites of unknown age. Of the 35 resources, 16 have been recorded within the project area, including 14 prehistoric or multicomponent resources (one of which is an archaeological district that encompasses nine of the resources), and two historic resources. Aside from the sites intersecting the project area, most of the other sites are clustered almost 1 mile to the south and southwest of the VNC. All 35 resources are summarized in Table 3-10, and the 16 sites that intersect the project area are discussed in this section.

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-000034	CA-LAN-000034	Prehistoric	Not evaluated	San Fernando Metate Site	1951 (Walker, Edwin, Southwest Museum); 1998 (Sutton, MQ, California State University, Bakersfield)	Outside
P-19-000169	CA-LAN-000169H	Multicomponent	Not evaluated	San Fernando Mission Archaeological Site	1950 (Pilling); 2013 (Aaron Elzinga and Chris Millington, SWCA); 2014 (Andrea Bean, John-Mark Cardwell, Chris Purtel, SWCA)	Outside
P-19-000255	CA-LAN-000255	Prehistoric	Not evaluated	Possible cemetery and habitation site	1968 (J. Beaton)	Outside
P-19-000408	CA-LAN-000408	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000409	CA-LAN-000409	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000411	CA-LAN-000411	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside
P-19-000412	CA-LAN-000412	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside
P-19-000475	CA-LAN-000475/H	Multicomponent	2S Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within
P-19-000490	CA-LAN-000490	Prehistoric	2S (Determined Eligible; Listed in the CRHR)	Lithic scatter. 1991 update stated that most surficial artifacts had been removed. Site has not been updated or relocated since 1991.	1972 (G. Gates); 1991 (R. Wlodarski and J. Budd, Cal State University Northridge)	Within

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-000491	CA-LAN-000491/H	Multicomponent	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1991.	1972 (G. Gates)	Within
P-19-000492	CA-LAN-000492	Prehistoric	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (GATES)	Within
P-19-000493	CA-LAN-000493/H	Multicomponent	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter; historic artifact scatter. Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within
P-19-000629	CA-LAN-000629	Prehistoric	Not evaluated	Burial. Originally recorded and excavated completely, additional testing showed it was isolated and no other artifacts were recovered. Attempt to relocate in 2011 was unsuccessful as the site was and is still mapped as being within the Los Angeles Reservoir.	1972 (G. Gates); 1974 (Kelly et al.); 2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-000642	CA-LAN-000642	Prehistoric	Not evaluated	Groundstone and lithic scatter. Original site record states it was basically destroyed at time of recordation and would be completely destroyed by Los Angeles Department of Water and Power. Site has not been updated or relocated since 1974.	1974 (Kelly, Gates, Bente)	Within

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-000643	CA-LAN-000643	Prehistoric	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Most recent recordation stated it appeared as a surficial deposit. Site has not been updated or relocated since 1991.	1974 (Kelly et al.); 1991 (R. Wlodarski, J Budd)	Within
P-19-000644	CA-LAN-000644	Prehistoric	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Original site record states it was "pretty much already destroyed" at time of recordation. Site has not been updated or relocated since 1974.	1974 (Kelly et al.)	Within
P-19-000645	CA-LAN-000645	Prehistoric	Not evaluated	Groundstone and lithic scatter. Original site record states it was destroyed by construction of the Los Angeles Dam. Site is mapped as being within the Los Angeles Reservoir.	1974 (Kelly et al.)	Within
P-19-000646	CA-LAN-000646/H	Multicomponent	2S (Determined Eligible; Listed in the CRHR)	Groundstone and lithic scatter. Site has not been updated or relocated since 1974.	1974 (Kelly et al.)	Within
P-19-000960	CA-LAN-000960H	Historic	Not evaluated	San Fernando Mission Dam	1978 (Bob Edberg, NARC); 1978 (Bob Edberg, NARC)	Outside
P-19-002150	CA-LAN-002150H	Historic	6Y (Determined ineligible for NRHP through Section 106 Process)	Aqueduct	1993 (R. Sheets, A. Cole, Science Applications International Corp)	Outside

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-002681	CA-LAN-002681/H	Multicomponent	Not evaluated	Historic and prehistoric artifacts scatter	1998 (Albert Knight, Pacific Pipeline Systems, Inc); 1998 (Albert Knight, Pacific Pipeline Systems, Inc); 2001 (Albert Knight, SAIC); 2001 (Albert Knight)	Outside
P-19-002760	CA-LAN-002760H	Historic	3S (Appears eligible for NRHP through survey evaluation)	Reservoir and Weir Box	1998 (D. Slawson, Greenwood & Associates)	Outside
P-19-003182	CA-LAN-003182H	Historic	3S (Appears eligible for NRHP through survey evaluation)	Mission period stone foundation and associated historic period refuse deposit.	2004 (John M. Foster, Greenwood & Associates)	Outside
P-19-004226	CA-LAN-004226	Prehistoric	Not evaluated	Groundstone and lithic scatter. Identified during construction for Van Norman Chlorination Tank No. 1. All artifacts out of situ and in disturbed context.	2009 (Frank Humphries, AECOM)	Within
P-19-004227	CA-LAN-004227/H	Multicomponent	Not evaluated	Groundstone and lithic scatter; historic artifact scatter. Identified during construction for Van Norman Chlorination Tank No. 2. All artifacts out of situ and in disturbed context. Likely remnants of previously destroyed sites. Chlorination Tanks now sit where site was recorded.	2009 (Frank Humprhies, AECOM)	Within

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-004228	CA-LAN-004228H	Historic	Not evaluated	Historic refuse scatter. Exposed artifacts were collected, extent of site unknown.	2009 (Frank Humphries, AECOM)	Within
P-19-167231	—	Historic	2S (Determined Eligible; Listed in the CRHR)	Mission San Fernando Rey de Espana Convento Building	1988 (D. Cameron, Archival Center, San Fernando Mission)	Outside
P-19-173040	—	Historic	3S (Appears eligible for NRHP through survey evaluation)	Mission Wells and Settling Basin	1967 (LA Cultural Heritage Commission); 2012 (Albert Knight)	Outside
P-19-175538	—	Multicomponent	2S (Determined Eligible; Listed in the CRHR)	Van Norman Reservoir Archaeological District—includes P-19-000475,-000490, -000491, -000492, -000493, -000642, -000643, -000645, and -000646.	1974 (G. Gates and Dr. A Gilman, Northridge Archaeological Center)	Within
P-19-186558	—	Historic	5S1 (Individual Property that is listed or designated locally)	Brand Park/Memory Garden	1980 (J. Arbuckle)	Outside
P-19-186560	—	Historic	5S1 (Individual Property that is listed or designated locally)	Terminus of Owens Rivers Aqueduct	1980 (J. Arbuckle)	Outside
P-19-186721	—	Historic	6Y (Determined ineligible for NRHP through Section 106 Process)	1640–1646 North Spring Street	2002 (D. Slawson, Greenwood & Associates)	Outside

Table 3-10. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHR Status	Description	Year/ Recorded By	Proximity to Project Area
P-19-188007	—	Historic	6Y (Determined ineligible for NRHP through Section 106 Process)	Old San Fernando Road	2006 (J. McKenna, McKenna et al); 2011 (C. Ehringer, ESA)	Outside
P-19-190043	—	Historic	6Y (Determined ineligible for NRHP through Section 106 Process)	Bull Creek Extension Channel. Resource has already been determined ineligible and therefore no significant impact will result.	2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-190318	—	Historic	Not evaluated	Rail Spurr crossing San Fernando Road	2012 (C. Ehringer, ESA)	Outside

CRHR = California Register of Historical Resources; NRHP = National Register of Historic Places.

Site Revisits

Van Norman Archaeological District (P-19-175538)

The Van Norman Archaeological District was nominated to the National Register of Historic Places in 1974 and approved in 1975. The district includes the following sites: P-19-000475,-000490, -000491, -000492, -000493, -000642, -000643, and -000646. All of these sites are within the project area and will be briefly discussed separately below. Sites P-19-000642 and P-19-000645 were originally nominated for inclusion; however, they were deemed ineligible.

P-19-000475 (CA-LAN-475/H)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter that was originally recorded in 1972 by Gerald Gates. The site was excavated by an archaeological field class from California State University, Northridge for five semesters between 1972 and 1975, though it was indicated that less than 1% of the site was sampled. The site is located within the boundaries of the original Lower Van Norman Reservoir. No remnants of the site were observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000490 (CA-LAN-490)

This site is a prehistoric lithic and groundstone scatter that was originally recorded in 1972, and updated in 1991 by Robert Wlodarski and J. Budd. During the original recordation, over 70 surface artifacts were collected, and the 1991 record indicates that very few artifacts remained at that time. The original record states that the site

may have been victim to looting, which likely added to its destruction. The 1991 record states that the site may have contained subsurface components; however, it was not tested. No remnants of the site were observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000491 (CA-LAN-491)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter that was originally recorded in 1972 by Gerald Gates. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000492 (CA-LAN-492)

This site is a prehistoric lithic and groundstone scatter which was originally recorded in 1972 by Gerald Gates. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000493 (CA-LAN-493)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter that was originally recorded in 1972 by Gerald Gates. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted at this site in 1974 and 1975, due to the planned destruction of the site. No remnants of the site were observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000643 (CA-LAN-643)

This site is a prehistoric lithic and groundstone scatter that was originally recorded in 1974 by Gerald Gates, and updated in 1991 by Robert Wlodarski and J. Budd. At the time of recordation, the site was not at risk for destruction. The updated site record indicates that in 1991, much of the site was covered by riprap. This record also states that the site appeared surficial, although it was not tested. The site has not been updated since 1991, and was not observed during pedestrian survey. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000646 (CA-LAN-646)

This site is a prehistoric lithic and groundstone scatter that was originally recorded in 1974 by Gerald Gates and associates. At the time of recordation, there were no plans for construction within or near the site that

would have impacted it. The site is located in the southwestern corner of the project area, which has seen a relatively small amount of disturbances over the years; however, no components of the site were observed during the pedestrian survey. The site may have lost its surficial component due to erosion, construction and maintenance, or looting; however, it is unknown if a subsurface component exists.

P-19-000629 (CA-LAN-629)

This site is an isolated, prehistoric human burial associated with a large amount of artifacts that was originally recorded in 1972 by Gerald Gates, and updated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The burial was completely excavated in block in 1972, and additional testing was conducted at that time. Additional testing indicated that additional materials were not present. In 2011, a survey was completed by AECOM for the Van Norman Complex Water Quality Improvement Project, and attempts were made to relocate the site; however, no portions of the site were present. The entirety of the site is completely under water within the LAR. The site condition has not changed since 2011, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-000642 (CA-LAN-642)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter that was originally recorded in 1972 by Gerald Gates. At the time of recordation, the site had been essentially destroyed, and maintenance activities would likely destroy any remnants. No remnants of the site were observed during pedestrian survey. It is likely that surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000644 (CA-LAN-644)

This site is a prehistoric lithic and groundstone scatter that was originally recorded in 1974 by Gerald Gates. At the time of recordation, the site had been essentially destroyed, and any maintenance activities would likely destroy any remnants. The site is located in the same location as several VNC facilities between the Yarnell Debris Basin and the Upper San Fernando Drain Line. No remnants of the site were observed during pedestrian survey. It is likely that the site is either completely destroyed or now lacks a surficial component.

P-19-000645 (CA-LAN-645)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter that was originally recorded in 1972 by Gerald Gates. At the time of recordation, the site was determined to have been destroyed or would be destroyed by the Los Angeles Dam Project. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted at this site in 1974 and 1975, due to the planned destruction of the site. The site is mapped within the LAR, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-004226 (CA-LAN-4226)

This site is a sparse prehistoric lithic and groundstone scatter that was originally recorded in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 1 construction. All artifacts were collected, though no artifacts were identified in situ. The site record states that the artifacts may have been redeposited as the result of historic grading and fill episodes. The site is located in the area directly to the northwest of the LAR.

P-19-004227 (CA-LAN-4227)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter that was originally recorded in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. All artifacts were collected, though no artifacts were identified in situ. The site record states that the artifacts may have been constituents of previously recorded sites that were spread throughout the area during grading and filling episodes. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-004228 (CA-LAN-4228)

This site is a historic refuse scatter that was originally recorded in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. All artifacts were collected, though no artifacts were identified in situ. The site record states that the site may have been a result of historic construction and maintenance of the LAR, or a result of the habitation of historic homes that were once located at the site. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-190043 (CA-LAN-190043)

This resource is the Bull Creek Extension Channel, which runs through the VNC, and was recorded and evaluated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The evaluation determined that the Bull Creek Extension Channel was not eligible for listing on the California Register of Historical Resources because it did not retain integrity due to changes made to it over time.

Map and Historic Aerial Photography Research

Historic maps and aerial photographs were consulted to understand development of the project area and surrounding properties. Topographic maps are available from 1900 to the present and aerial images are available from 1947 to the present (NETR 2018). Topographic maps show that the project area began to be used as a reservoir by at least 1924. The reservoir was expanded once in the 1930s and again in the 1940s when it was split into an upper and lower reservoir. The topographic map from 1975 shows that the lower reservoir was under construction at this time. By the late 1980s, the reservoir improvements were completed. The first historic aerials from the project area show both the upper and lower reservoirs, though at this time the lower reservoir

was still an irregularly shaped lake, as the existing basin had not yet been constructed. No massive changes to the project area occurred until the early 1970s, when the lower reservoir came under construction. During construction, much of the land within the project area appears to have been graded. By 1977, the rectangular shaped lower reservoir, which still exists, had been completed. The upper reservoir was redeveloped between 1980 and 1994. After this time, there were few significant changes within the project area.

Native American Correspondence

The Native American Heritage Commission was contacted on May 3, 2018, and a review of the Sacred Lands File was requested. The Native American Heritage Commission replied via email on May 7, 2018, stating that the Sacred Lands File search was completed with negative results. Because the Sacred Lands File search does not include an exhaustive list of Native American cultural resources, the Native American Heritage Commission suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the project area. The Native American Heritage Commission provided a list of nine Native American groups and individuals who may have knowledge of cultural resources in the project area. Formal government-to-government consultation as specified by Assembly Bill (AB) 52 was conducted by LADWP and is discussed in Section 3.18, Tribal Cultural Resources.

Survey

A specialist who qualifies for paleontology and archaeology under the Secretary of Interior Standards conducted an intensive pedestrian survey of the project area on May 2 and May 3, 2018, using standard paleontological and archaeological procedures and techniques. All work areas were surveyed, including the Lower San Fernando Detention Basin, Upper Northeast Drainage, LAR UV Plant Drainage and V-Ditch, LAR North Dike Storm Water Basin and East Channel, Yarnell Debris Basin, Upper San Fernando Drain Line Feature 1 and Feature 2, San Fernando Gate Drainage Feature, Upper Debris Basin, Middle Debris Basin, Bee Drainage Channel, segment of Bull Creek Extension, and San Fernando Creek (see Figure 2). All field practices met the Secretary of Interior's standards and guidelines for a cultural resources and paleontological inventory. Pedestrian transects were walked on 20-meter intervals throughout the project area. Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials and to record locational information.

Where cultural materials were encountered, all data necessary to complete the appropriate State of California DPR 523 series forms were collected. Following California Office of Historic Preservation guidelines, any cultural material more than 45 years old was recorded as an archaeological site, built-environment resource, or isolate, as appropriate. All fieldwork was documented using field notes and iPad technology with close-scale field maps and aerial photographs. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with 8 mega-pixel resolution and georeferenced PDF maps of the project area. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California office.

No significant archaeological resources were documented during the survey; however, insignificant resources were documented in the Upper Northeast Drainage (e.g., chunks of bricks, concrete, and asphalt mixed in the riprap) and Middle Debris Basin (e.g., bricks and fragmentary glass insulator deposited on the creek bottom). Much of the project area is covered with vegetation and portions have been covered with gravel. Ground visibility was generally poor (0% to 20%) and many of the channels were lined with concrete and/or riprap, completely overgrown with vegetation, or contained water, further diminishing the surveyable area. Soils in the area are light yellowish-brown sands with gravel. The project area is in the VNC, which is fenced in with a chain-link fence and is located within a rural, residential area. During the survey, no remnants of the 16 sites that were recorded within the project area were observed. These results likely speak to the disturbance that the site has experienced over the last 50 years.

The proposed project is expected to consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport archaeological resources from their original locations. None of the previously identified significant or potentially significant archaeological sites recorded within the project area could be relocated due to extensive past disturbances that have destroyed the sites. Despite these disturbances, there remains a possibility of discovering sensitive remains or artifacts during earthmoving activities associated with the proposed project, and thus, archaeological sensitivity is considered to be low to moderate. As such, MM-CUL-1 would be required to reduce impacts to cultural resources to **less than significant**.

MM-CUL-1 A qualified archaeologist shall attend the maintenance activity kick-off meeting to coordinate with the Los Angeles Department of Water and Power and the maintenance foreman to allow for brief inspection of initial ground disturbance within 50 feet of previously recorded archaeological site boundaries. The goal of this meeting will be to determine if more intensive archaeological monitoring is required.

MM-CUL-2 To reduce potential impacts to unanticipated cultural resources during project implementation, all maintenance personnel should undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated archaeological discoveries are treated appropriately. The WEAP training will provide specific details on the kinds of archaeological materials that may be identified during project implementation.

MM-CUL-3 In the event that archaeological resources (sites, features, or artifacts) are exposed during maintenance and operation activities for the proposed project, all activities 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 under the California Environmental Quality Act (CEQA) (14 CCR 15064.5[f]; California Public Resources Code Section 21082), 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.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less-Than-Significant Impact. Since the project area has been developed with water conveyance and storage facilities, ground-disturbing activities associated with proposed maintenance activities are unlikely to uncover previously unknown archaeological resources. However, if human skeletal remains are uncovered during ground-disturbing activities, maintenance workers are required by law to stop work and contact the County Coroner. California 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 can occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. Furthermore, if the coroner determines or has reason to believe that the remains are those of a Native American, the coroner must contact the California Native American Heritage Commission within 24 hours (California Health and Safety Code, Section 7050.5c), and the California Native American Heritage Commission must notify the most likely descendant. The most likely descendant 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.

Therefore, if Native American remains were uncovered during ground-disturbing activities associated with the proposed project, compliance with existing regulations would ensure that the appropriate authorities are notified and that discovered remains are treated with the appropriate respect and dignity. As such, impacts would be **less than significant**.

References

McLeod, S.A., 2018. "Vertebrate Paleontology Records Check for paleontological resources for the proposed Van Norman Maintenance Project, Dudek Project # 10649.33, in Granada Hills, Los Angeles County, project area." Unpublished Records Search Results Letter from S. McLeod (The Natural History Museum of Los Angeles County) to M. Williams (Dudek).

NETR (National Environmental Title Research, LLC). 2018. Historic Aerials and Topographic Maps. Accessed June, 2018. http://www.historicaerials.com/.

3.6 Energy

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

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

Less-Than-Significant Impact. The service providers, supply sources, and estimated consumption for electricity, natural gas, and petroleum are discussed below.

Energy Overview

Electricity

LADWP is the utility provider for the City. LADWP provides electric services to 1.5 million customers located in the City and in the Owens Valley. In 2018, LADWP customers consumed approximately 24 billion kilowatt-hours of electricity (CEC 2018). LADWP receives electric power from a variety of sources. Approximately 29% of LADWP's power came from renewable energy sources in 2016, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (LADWP 2017). Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per-capita has remained stable for more than 30 years, while the national average has steadily increased (CEC 2015).

Natural Gas

SoCalGas serves the City (including the project area). SoCalGas serves 21.6 million customers in a 20,000-square-mile service area that includes more than 500 communities (SoCalGas 2018). In 2016 (the most recent year for which data is available), SoCalGas delivered 5,123 million therms of natural gas, with the majority going to residential uses. Demand for natural gas can vary depending on factors such as weather, price of electricity, the health of the economy, environmental regulations, energy-efficiency programs, and the availability of alternative renewable energy sources. Natural gas is available from a variety of in-state and out-of-state sources, and is provided throughout the state in response to market supply and demand (SoCalGas 2018).

Petroleum

Transportation accounts for the majority of California's total energy consumption (CEC 2018). According to the Energy Information Association, California used approximately 672 million barrels of petroleum in 2016 (EIA 2018). This equates to a daily use of approximately 1.8 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 77 million gallons of petroleum per day, adding up to an annual consumption of 28 billion gallons of petroleum. However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total (EIA 2018). At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and GHG emissions, and reduce vehicle miles traveled.

Project Maintenance Energy Use

Electricity

Temporary electric power for as-necessary lighting and electronic equipment would be provided by LADWP. The amount of electricity used for the routine vegetation management and maintenance activities for the proposed project would be minimal, because typical demand would stem from electrically powered hand tools. The electricity used for the proposed project would be temporary and minimal; therefore, proposed project maintenance would not result in wasteful, inefficient, or unnecessary consumption of electricity. Impacts would be **less than significant**.

Natural Gas

Natural gas is not anticipated to be required for the proposed project. Fuels used for the proposed project would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum." Any minor amounts of natural gas that may be consumed as a result of the proposed project would be temporary and negligible and would not have an adverse effect; therefore, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of natural gas. Impacts would be **less than significant**.

Petroleum

Petroleum would be consumed for maintenance activities. Fuel consumed by off-road equipment would be the primary energy resource expended over the course of the proposed project. Transportation of materials and workers would also result in petroleum consumption. Off-road equipment and haul trucks would use diesel fuel. Workers would likely travel to and from the project area in gasoline-powered vehicles. Maintenance of the project is expected to take place during 5 months of each year, beginning in September 2019, and would occur on an annual or as-needed basis in subsequent years. Maintenance activities would be rotated such that each

area would be subject to maintenance no more than once every 3 years. Because of the short-term nature of maintenance activities and relatively small scale of the project, the proposed project's petroleum consumption would be negligible when compared to California's daily total use of approximately 1.8 million barrels of petroleum. As such, impacts would be **less than significant**.

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

Less-Than-Significant Impact. The proposed project would follow applicable energy standards and regulations during the maintenance activities. In addition, the proposed project would be built and operated in accordance with all existing, applicable regulations at the time of maintenance activities. As such, impacts related to the proposed project's potential to conflict with plans for renewable energy and energy efficiency would be **less than significant**.

References

CEC (California Energy Commission). 2018. "Electricity Consumption by Entity." Accessed July 2018. http://www.ecdms.energy.ca.gov/elecbyutil.aspx.

EIA (Energy Information Association) 2018. "California State Profile and Energy Estimates – Table F15: Total Petroleum Consumption Estimates, 2016." Accessed February 2019. http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA.

LADWP (Los Angeles Department of Water and Power) 2017. *Briefing Book 2017–2018*. August 2017. Accessed December 2018. https://s3-us-west-2.amazonaws.com/ladwp-jtti/wp-content/uploads/sites/3/2017/09/08143247/Briefing-Book-Rolling-PDF.pdf.

SoCalGas (Southern California Gas). 2018. "Company Profile." Accessed April 2018. https://www.socalgas.com/about-us/company-profile.

3.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent	☐	☐	☒	☐

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 direct or indirect risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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

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

Less-Than-Significant Impact. The Los Angeles area has a fault system that traverses the region, including the San Andreas Fault. The Safety Element of the City's General Plan shows that the project area is within a Fault Rupture Study Area, as well as largely within an Alquist-Priolo Special Study Zone Area (City of Los Angeles 1996).

Regardless of the extent and magnitude of seismic hazards present within the region, the proposed project would not increase public exposure to such risks because they would not involve habitable structures and would not result in increased geologic risks to the public or property outside of the project area. The proposed project would occur on or along existing system facilities and infrastructure, which are generally not accessible to the public. Infrastructure would be inspected and repaired, if necessary, in the event it experiences damage in an earthquake. The impacts of the proposed project with respect to public safety (i.e., loss, injury, or death) and/or property damage would be negligible; therefore, impact would be **less than significant**.

ii) Strong seismic ground shaking?

Less-Than-Significant Impact. As previously discussed, the project area lies within a Fault Rupture Study Area, as well as largely within an Alquist-Priolo Special Study Zone Area (City of Los Angeles 1996). Given the region's complex fault system, the project area could experience strong seismic ground shaking. The proposed project would occur on or along existing infrastructure, and no expansion or additional infrastructure is planned as part of it. Additionally, the proposed project does not propose any habitable structures or other growth-inducing development. Despite the apparent risk of earthquake-related hazards, the proposed project would not result in increased exposure of people or structures to substantial adverse effects of seismic ground shaking; therefore, impacts would be **less than significant**.

iii) Seismic-related ground failure, including liquefaction?

Less-Than-Significant Impact. The majority of the project area has been designated as susceptible to liquefaction (City of Los Angeles 1996). However, the proposed project would occur on or along existing facilities and no habitable structures are proposed. Infrastructure would be inspected and repaired, if necessary, in the event of liquefaction. The impacts of the proposed project with respect to

public safety (i.e., loss, injury, or death) and/or property damage would be negligible; therefore, impact would be **less than significant**.

iv) Landslides?

Less-Than-Significant Impact. Exhibit C of the Safety Element of the City's General Plan generally depicts the potential landslide hazard areas within the City (City of Los Angeles 1996). According to Exhibit C, the project area is not within a hillside area, which would be more susceptible to landslides. There are no landslide areas mapped within the project area. The City's Safety Element does show an area identified as a "Cluster of Small Shallow Surfacal Landslides" adjacent to the western boundary of the VNC and north of the project area. Additionally, sites identified as "5 to 100 Acre Bedrock Landslide Sites" and "5 to 100 Acre Probably Bedrock Landslide Sites" are shown directly northwest of the project area (City of Los Angeles 1996). However, with no landslide sites associated with the project area, the likelihood of a landslide within the project area is considered low. Further, the proposed maintenance activities would occur on or along existing facilities and no habitable structures are proposed. Infrastructure would be inspected and repaired, if necessary, in the event of a landslide. The impacts of the proposed project with respect to public safety (i.e., loss, injury, or death) and/or property damage would be negligible; therefore, impact would be **less than significant**.

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

No Impact. The proposed project includes maintenance activities that would occur along the existing facilities within the project area. One of the issues that the proposed project seeks to address is sediment and sand buildup in existing facilities in the VNC, as well as vegetation management in or around these existing facilities. Overgrown vegetation and accumulated sediment would be removed as a result of the proposed project. Maintenance activities would be performed in an effort to ensure that facilities are functioning properly and thereby reducing the risk of soil erosion or the loss of topsoil. Typical construction activities associated with soil erosion or the loss of topsoil, such as grading or excavation, would not be performed as part of the proposed project. Thus, the proposed project would have **no impact** associated with soil erosion or the loss of topsoil.

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. As previously discussed, the proposed project would be located within areas of the City that are susceptible to landslides, lateral spreading, and liquefaction (City of Los Angeles 1996). Subsidence can be induced by both natural and human phenomena and can result from withdrawal of subsurface water or sediment. The potential for failure from subsidence is highest in areas where the

groundwater table is high, where relatively soft and recent alluvial deposits exist, and where creek banks are relatively high. The proposed project would not include withdrawal of subsurface water. The proposed project would involve the removal of excess sediment and sand from channels or basins, and vegetation management. The proposed project would occur on or along existing facilities and no habitable structures are proposed. Infrastructure would be inspected and repaired, if necessary, in the event of landslide, lateral spreading, subsidence, or liquefaction. The impacts of the proposed project with respect to public safety (i.e., loss, injury, or death) and/or property damage would be negligible; therefore, 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 direct or indirect risks to life or property?

Less-Than-Significant Impact. Table 18-1-B of the Uniform Building Code defines the expansive potential of a soil by its "expansion index," which if greater than 20, typically requires special foundation design consideration under the Uniform Building Code (ICBO 1994). The expansive potential of soils is typically related to the type and amount of clay minerals in a soil, along with the moisture content of the soil and how often it changes (i.e., wet/dry cycles). Expansive soils can be widely dispersed, found in hillside areas as well as low-lying areas in alluvial basins.

This criterion does not apply to the proposed project because the existing infrastructure would simply be maintained and would not require or involve the construction of new or expanded facilities. The proposed project would not involve the construction of habitable structures and would not expose the public to substantial risks to life or property if they were damaged by expansive soils. For these reasons, the impact of the proposed project to life or property from expansive soils would be **less than significant**, regardless of the presence of expansive soils on a specific work area within the project area.

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. Proposed maintenance activities would not involve any septic tanks or alternative wastewater disposal systems; therefore, there would be **no impact**.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-Than-Significant-Impact with Mitigation Incorporated. A paleontological records search request was sent to the Natural History Museum of Los Angeles (LACM) on May 1, 2018, and the results were received on May 15, 2018. According to the LACM and results from previous surficial geological mapping (see Appendix C, Cultural Report), the VNC is underlain by the following geological units, listed from youngest to oldest: Holocene (<12,000 years ago), younger Quaternary alluvium underlain by Pleistocene (approximately 2.8

million to 12,000 years ago), older Quaternary alluvium Pliocene (approximately 5.3 to 2.8 million years ago) to Pleistocene Saugus Formation, Pliocene Towsley Formation, and the late Miocene (approximately 11.6 to 5.3 million years ago) Monterey Formation.

The LACM reported two previously recorded vertebrate fossil localities within the VNC and several localities outside of the VNC, but near the project area. The two vertebrate fossil localities are from older Quaternary deposits or the Saugus Formation on the northwestern side of the present Van Norman Reservoir and northeastern Southern Debris Basin and yielded a fossil bison (*Bison* spp.) at 75 feet below the ground surface and a fossil mammoth (*Mammuthus* spp.) (Appendix C). Nearby, but east of the northernmost project area, just east of I-5 and south of I-210, McLeod (2018) reported on fossil mastodon (*Mammut* spp.) and horse (*Equus* spp.) from older Quaternary deposits. The LACM did not report any fossil localities from the Saugus Formation, Towsley Formation, or Monterey Formation within the project area; however, there are several fossil localities in the vicinity of the VNC. The nearest Saugus Formation locality, situated just east of the southern portion of the Yarnell Debris Basin, yielded a horse fossil specimen (Appendix C). The LACM reported a fossil locality from the Towsley Formation, approximately 1 mile north-northeast of the project area that produced a specimen of baleen whale. Although only one indeterminate mammal was reported by the LACM from the Monterey Formation near the project area, McLeod (2018) mentioned numerous LACM localities from the Monterey Formation south of the VNC on the northern flank of the Santa Monica Mountains; however, no further details regarding these localities were given.

No significant paleontological resources were document during an on-site survey on May 2 and May 3, 2018.

The proposed project is expected to consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport paleontological resources from their original locations. No significant paleontological or unique geological resources were identified within the project area during the pedestrian survey. Given the proposed maintenance activities, the paleontological sensitivity within the work areas is considered low, and no unique geological features are anticipated to be impacted by implementation of the proposed project. However, implementation of MM-CUL-2 would reduce potential impacts to paleontological resources to **less than significant**.

MM-GEO-1 In the event that paleontological resources (e.g., fossils) are unearthed during project earthmoving, the area of discovery shall be roped off with a 50-foot radius buffer. A qualified paleontologist shall be retained to assess the find and provide appropriate mitigation. Once documentation and collection of the find is completed, the qualified paleontologist shall remove the rope and allow ground disturbance to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program for the proposed project. The Paleontological Resources Impact Mitigation Program shall be consistent with the 2010 guidelines of the Society of Vertebrate Paleontology and shall outline where paleontological monitoring is required based on maintenance plans and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management.

References

City of Los Angeles. 1996. "Safety Element." *City of Los Angeles General Plan*. November 26, 1996. Accessed June 2018. https://planning.lacity.org/cwd/gnlpln/saftyelt.pdf.

ICBO (International Conference of Building Officials). 1994. Uniform Building Code. May 1, 1994. Accessed August 2018. http://digitalassets.lib.berkeley.edu/ubc/UBC_1994_v2.pdf.

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3.8 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?	☐	☐	☒	☐

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

Less-Than-Significant Impact. Climate change refers to any significant change in measures of climate (e.g., temperature, precipitation, or wind patterns) lasting for an extended period of time (i.e., decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere). The greenhouse effect is a natural process that contributes to regulating the Earth's temperature, and it creates a livable environment on Earth. Human activities that emit additional greenhouse gases (GHGs) to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also CEQA Guidelines Section 15364.5).[9] The three GHGs evaluated herein are CO_2, CH_4, and N_2O because these gases would be emitted during the proposed project.

[9] Climate-forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code Section 38505; impacts associated with other climate-forcing substances are not evaluated herein.

The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod Version 2016.3.2, this GHG emissions analysis assumed the GWP for CH_4 is 25 (i.e., emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

As discussed in Section 3.3, Air Quality, the proposed project is located within the jurisdictional boundaries of the SCAQMD. In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its Draft Guidance Document—Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008a). This document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2008b). The 10,000 MT CO_2e per-year threshold, which was derived from GHG reduction targets established in Executive Order S-3-05, was based on the conclusion that the threshold was consistent with achieving an emissions capture rate of 90% of all new or modified stationary source projects.

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. 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 SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal issued by SCAQMD, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1. Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2. Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3. Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per-year threshold for industrial uses would be

recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4. Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of Assembly Bill (AB) 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per-service population for project-level analyses and 6.6 MT CO_2e per-service population for plan-level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5. Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

To determine the proposed project's potential to generate GHG emissions that would have a significant impact on the environment, its GHG emissions were compared to the SCAQMD recommended mixed-use quantitative threshold of 3,000 MT CO_2e per year.

Project Maintenance Emissions

The proposed project would result in GHG emissions primarily associated with the use of off-road equipment, on-road trucks, and worker vehicles. As described in Section 3.3, the CalEEMod was used to calculate the annual GHG emissions. On-site sources of GHG emissions include off-road equipment; off-site sources include trucks and worker vehicles. Table 3-11 shows the estimated GHG emissions for the proposed project during the first year and subsequent years.

Table 3-11. Estimated Annual Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2019	29.91	0.01	0.00	30.12
2020 and thereafter	17.97	0.01	0.00	18.09
			SCAQMD Threshold	3,000
			Exceeds Threshold	No

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; N_2O = nitrous oxide; SCAQMD = South Coast Air Quality Management District.
See Appendix A for complete results.

As shown in Table 3-11, the proposed project would result in approximately 30 MT CO_2e from the first year of operations and approximately 18 MT CO_2e per year thereafter. Estimated annual increased GHG emissions associated with development of the proposed project would not exceed the threshold of 3,000 MT CO_2e per year; therefore, GHG impacts for the proposed project would be **less than significant**.

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

Less-Than-Significant Impact. The City has developed action plans to reduce GHG emissions and thereby reduce their jurisdiction's contribution to global climate change concerns. As detailed below, none of these plans is a Qualified GHG Emissions Reduction Plan under CEQA per the requirements outlined in CEQA Section 15183.5(D); therefore, no CEQA document can tier from the City's plans. While there is currently no local guidance that would be specifically applicable to the CEQA analysis of the proposed project, and no mandatory GHG plans, policies, regulations, or finalized agency guidelines that would apply to implementation of the proposed project, a description of the relevant plans with GHG reduction strategies is provided in Appendix A for informational purposes.

The City adopted Green LA: An Action Plan to Lead the Nation in Fighting Global Warming in May 2007, which set forth the goal of reducing City GHGs by to 35% below 1990 levels by 2030 (City of Los Angeles 2007). The GHG reductions set out in the plan are based on actions in key sectors, including energy, water, transportation, waste, the Port of Los Angeles, airports, open space and greening, green economy, and adaptation strategies.

In March 2017, the City released its latest Sustainable City pLAn, which set the course for a cleaner environment and a stronger economy, with a commitment to equity as its foundation. The plan is made up of short-term (by 2017) and longer-term (by 2025 and 2035) targets in 14 categories that will advance the City's environment, economy, and equity (City of Los Angeles 2017). The plan sets GHG emissions reduction targets (set against a 1990 baseline) of 45% by 2025, 60% by 2035, and 80% by 2050. It also sets GHG efficiency improvement targets for the City's economy of 55% in 2025 and 75% in 2035 from 2009 baseline levels[10] (City of Los Angeles 2017). The third annual Sustainable City pLAn Report (2017–2018), determined that the City's emissions were 51% below the 1990 baseline as of 2016, putting the City ahead of the 2025 pLAn reduction target of 45% (City of Los Angeles 2018).

In December 2017, LADWP approved the 2017 Power Strategic Long-Term Resource Plan (PSLTRP), which serves as a comprehensive 20-year roadmap that guides the LADWP Power System in its efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. One of the goals set forth in

[10] GHG efficiency is the amount of GHG emissions emitted per dollar of economic productivity, which is assumed to be 44.5 MT CO_2e per million dollars of metro area gross domestic product in 2009 (City of Los Angeles 2017).

the 2017 PSLTRP is to reduce GHG emissions while ensuring reliable electric service and maintaining cost competitive rates. LADWP seeks to accomplish this goal by examining multiple strategies to reduce GHG emissions, including early coal replacement, an accelerated renewable portfolio standard, local solar, energy storage, and transportation electrification (LADWP 2017). The 2017 PSLTRP includes a renewable portfolio standard goal of 50% by 2025 55% by 2030, 65% by 2036, doubling of energy efficiency from 2017 through 2027, repowering coastal in-basin generating units with new, highly efficient potential clean energy projects by 2029 to provide grid reliability and critical ramping capability, accelerating electric transportation to absorb GHG emissions from the transportation sector, and investing in the Power System Reliability Program to maintain a robust and reliable Power System" (LADWP 2017). The 2017 PSLTRP determined that a combination of these GHG strategies will reduce LADWP's GHG emissions to nearly 78% below 1990 levels over the next 20 years and over 82% below 1990 levels overall when considering GHG emissions absorbed from the transportation sector (LADWP 2017).

The Green LA Plan, the Sustainable City pLAn, and the 2017 PSLTRP are not qualified GHG emission reduction plans under CEQA; however, the proposed project would not conflict with these plans.

The Climate Change Scoping Plan, approved by CARB on in 2008 and updated in 2014 and 2017, 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. The Scoping Plan is not directly applicable to specific projects, and it is not intended to be used for project-level evaluations.[11] Under the Scoping Plan, however, there are several state regulatory measures aimed at identifying and reducing 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, and high-GWP GHGs in consumer products) and changes to the vehicle fleet (e.g., hybrid, electric, and more fuel-efficient vehicles) and associated fuels, among others.

Regarding consistency with Senate Bill 32 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and Executive Order S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for that future-year analysis. However, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan: Building on the Framework that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, CARB (2014) states the following:

[11] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in 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" (California Natural Resources Agency 2009).

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under Assembly Bill 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, Senate Bill 32, and Executive Order S-3-05. CARB confirmed this in its 2017 Climate Change Scoping Plan Update, which states the following (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB [Senate Bill] 32, and AB 197.

The proposed project would not interfere with implementation of GHG reduction goals for 2030 or 2050 because it would not exceed the SCAQMD's recommended threshold of 3,000 MT CO_2e per year. In addition, the proposed project would not conflict with the state's trajectory toward future GHG reductions. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; therefore, impact would be **less than significant**.

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3.9 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 or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

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. The proposed project would primarily involve the use of common hazardous materials, including oil and grease, solvents, diesel fuel, and other chemicals in vehicles, trucks, and heavy equipment. The proposed project would not require extensive or ongoing use of acutely hazardous materials

or substances. The proposed maintenance activities would be of short duration, occurring between 1 day and 14 days at each work area approximately once a year, and would involve the limited transport, storage, use, and/or disposal of common machinery-related hazardous materials.

The use of hazardous materials within the project area could pose risks to maintenance workers or lead to soil and water contamination, if the hazardous materials are not properly stored, used, or disposed of. Due to the presence of water bodies, the potential for water contamination and the likelihood that accidentally contaminated soils would end up in the water could create a public health and safety hazard.

To prevent environmental hazards, the handling of hazardous materials used in equipment would be conducted in accordance with existing regulations, such as Title 22 of the California Code of Regulations. These regulations include the transport of hazardous materials, on-site storage and use of hazardous materials, and procedures to implement in the event of a spill. In addition, potential risks associated with the routine transport, use, or disposal of hazardous materials would be minimized through implementation of AMM-HYD-1, Erosion Control, and AMM-HYD-2, Minimization of Controllable Discharge of Pollutants, detailed in Section 3.10, Hydrology and Water Quality.

With incorporation of AMM-BIO-5, Equipment and Access, and AMM-BIO-6, Pollution, Litter, and Cleanup, potentially adverse impacts associated with the transport, handling, and use of hazardous materials would be reduced to **less-than-significant** levels.

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. As discussed in Section 3.9(a), the proposed project would involve the use of common hazardous materials, including oil and grease, solvents, diesel fuel, and other chemicals in vehicles, trucks, and heavy equipment. While the transport, handling, storage, and use of these hazardous materials would be done in compliance with the applicable regulatory requirements, there is always the risk that hazardous materials could be accidentally released into the environment. As such, the proposed project would implement AMM-BIO-5 and AMM-BIO-6, which require the implementation of measures to minimize the likelihood of accident conditions occurring, and establish procedures in case accident conditions should occur. With implementation of AMM-BIO-5 and AMM-BIO-6, impacts associated with the hazards to the public or the environment through foreseeable upset and accident conditions involving the release of hazardous materials would be **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. There are no schools located within 0.25 miles of the VNC. The closest school to the project area is Knollwood Elementary School, located approximately 0.4 miles west of the VNC. Maintenance activities would utilize hazardous materials, but these would be handled in accordance with existing regulations. No hazards to the maintenance crew or to nearby residents, students, or employees would occur from hazardous materials use within the project area. Section 3.3, Air Quality, discusses toxic air contaminants and determined that the proposed project would not expose nearby sensitive receptors to substantial pollutant concentrations. Therefore, there would be **no impacts** and no mitigation would be required.

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?

Less-Than-Significant Impact with Mitigation Incorporated. Available online databases that provide environmental information on facilities and sites in the State of California were reviewed. These databases include California Environmental Protection Agency (CalEPA), Department of Toxic Substances Control (DTSC) EnviroStor, RWQCB GeoTracker, National Pipeline Mapping System, and California Division of Oil, Gas, and Geothermal Resource online well finder. Two of the databases, EnviroStor and GeoTracker, list the VNC as a site where a previous hazardous material release occurred. Additionally, the California Division of Oil, Gas, and Geothermal Resource online well finder indicates that an oil well was plugged and abandoned within the VNC (but not on a work area) in 1921 (DOC 2018).

DTSC maintains the EnviroStor Database, which compiles hazardous material generators and sites that have been identified for clean up or that are permitted to handle hazardous materials by various regulatory agencies. The EnviroStor Database lists the Sylmar Converter Station, located in the northeastern portion of the VNC, as a contaminated site currently enrolled in the DTSC's voluntary cleanup program (DTSC n.d.). The Sylmar Converter Station was commissioned as an electricity converter station in 1969, and has been in operation since that time. During the 1994 Northridge earthquake, two on-site transformers were damaged and approximately 10,000 gallons of electrical insulating oil spilled. Despite that most of the oil remained within the limits of the Sylmar Converter Station, a minor quantity of the oil mixed with water discharged from a broken water main line. The oily waste flowed into the on-site storm drain system reaching drainage channels that lead to other areas within the VNC. Two of the proposed project work areas, the Yarnell Debris Basin and the Lower San Fernando Detention Basin, were determined to have been potentially affected by the spill. On June 30, 2000, LADWP entered into a Voluntary Cleanup Agreement to investigate the extent of environmental impacts associated to the oil spill and presence of hazardous waste or hazardous waste constituents at the affected areas. A June 2016 Supplemental Remedial Investigation determined that several contaminants of concern were present in soil samples taken from the Yarnell Debris Basin and the Lower San Fernando Detention Basin

(LADWP 2017). Total petroleum hydrocarbons, polychlorinated biphenyls, and all Title 22 metals except arsenic and thallium were detected in soil samples taken from the Yarnell Debris Basin. The same contaminants, with the exception of polychlorinated biphenyls, were detected in sediment samples from the Lower San Fernando Detention Basin. LADWP intends to investigate further and refine the understanding of conditions at the Yarnell Debris Basin and the Lower San Fernando Detention Basin once permitting is complete and work plan approval has been obtained from the DTSC and U.S. Environmental Protection Agency, and to provide additional information in support of human and ecological health risk assessments. The sampling is anticipated to take place in early 2020, and the reports would be generated prior to the end of 2020.

No other proposed work areas were affected by the spill. The RWQCB GeoTracker database indicates that a petroleum spill occurred within the VNC in 1999, but that the spill was remediated and the case was closed in 2015 (SWRCB n.d.). The GeoTracker search did not return any other locations in the vicinity of the VNC that are considered hazardous materials sites pursuant to Government Code Section 65962.5.

The proposed project would include mowing herbaceous vegetation at the Yarnell Debris Basin and removing overgrown vegetation and accumulated sediment at the Lower San Fernando Detention Basin. Due to the potential presence of hazardous contaminants at the aforementioned work areas, maintenance activities could potentially expose maintenance workers to hazardous media as sediments are disturbed. As such, MM-HAZ-1 shall be implemented to reduce levels of exposure to less than significant levels. MM-HAZ-1 would require LADWP to implement a Hazardous Site Safety Plan for the affected work areas.

MM-HAZ-1 The Los Angeles Department of Water and Power (LADWP) shall prepare and implement a Hazardous Site Safety Plan for the Yarnell Debris Basin and Lower San Fernando Detention Basin. The Hazardous Site Safety Plan shall include measures to minimize exposure to workers and for the safe excavation, handling, and disposal of hazardous media.

Worker exposure to hazardous substances shall be minimized through implementation of a Health and Safety Plan. The project-specific Health and Safety Plan shall be prepared in accordance with the Occupational Safety and Health Administration standards, included in the Hazardous Site Safety Plan, and implemented during excavation and maintenance-related activities. The Hazardous Site Safety Plan shall also include procedures for the safe management of hazardous media and shall include, at a minimum, the following:

- Identification of known areas with hazardous media of concern.
- Instructions for identification of suspect hazardous media.
- Procedures for temporary cessation of maintenance activity and evaluation of the level of environmental concern if previously unidentified suspect soils are encountered.
- Procedures for limiting access for properly trained personnel to the contaminated area.

- Procedures for characterizing and managing excavated soils.
- Procedures for proper disposal of hazardous media (disposal shall be handled by the LADWP Hazardous Substances Group).
- Procedures for notification and reporting, including internal management and agencies (e.g., local fire department, Certified Unified Program Agency, U.S. Environmental Protection Agency), as needed.

With implementation of MM-HAZ-1, impacts related to hazardous material sites 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 result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The VNC is located approximately 4 miles northwest of Whiteman Airpark and 4.4 miles north of Van Nuys Airport; it is not within the Los Angeles County Airport Influence Area (County of Los Angeles 2011; Los Angeles County Airport Land Use Commission 2004). The proposed project would not involve the construction of high-rise structures or involve activities that could pose a safety hazard to aircraft operations or airport activities, and it would not conflict with an airport land use plan. Therefore, there would be **no impacts** to public airports.

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

No Impact. Proposed maintenance activities would be staged within the VNC and would not interfere with any current emergency response plans or emergency evacuation plans for local, state, or federal agencies. Traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the work area under maintenance. All proposed maintenance activities would occur on the VNC and would not require any (temporary) closures to public streets. Therefore, there would be **no impacts** related to emergency response/evacuation plans.

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

Less-Than-Significant Impact. According to the Fire Hazard Severity Zones Maps, the project area is designated as being outside the Very High Fire Hazard Safety Zone (VHFHSZ), or Non-VHFHSZ, for both local responsibility and state responsibility area maps (CAL FIRE n.d.). Despite this fact, the potential for wildland fire is still considered high throughout the VNC due to the chaparral, brush, and trees located throughout that could be highly flammable during fire season.

The proposed project would not involve construction or operation of habitable structures in wildland areas or promote new development in wildland areas. The proposed project would have the potential to increase the risks associated with wildfires due in part to the presence of heavy equipment and the potential for leaks from that heavy equipment; the use of flammable liquids; and the presence of combustion engines. However, LADWP has procedures in place to minimize the risk of fire during project activities. These procedures include fire safety measures in compliance with Chapter 33 of the California Fire Code. Gasoline-powered or diesel-powered machinery used during maintenance are equipped with standard exhaust controls and muffling devices that also act as spark arrestors. Fire containment and extinguishing equipment are available and accessible during maintenance activities. The maintenance crew is trained in the use of the fire suppression equipment and is not permitted to idle vehicles on the job site when they are not in use. Where hot work is necessary, it is performed in compliance with the California Fire Code's Chapter 35, Welding and Other Hot Work, and the National Fire Protection Association's 51-B, Fire Prevention During Welding, Cutting and Other Hot Work. Additionally, vegetation mowing and fuel modification activities that would be conducted as part of the proposed maintenance activities would reduce the potential for brush fires within the project area. Therefore, impacts associated with wildfire hazards associated with the proposed project would be **less than significant**.

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3.10 Hydrology and Water Quality

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

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-Than-Significant Impact. Water quality objectives, plans, and policies for surface waters are set forth in the Los Angeles Region Basin Plan (Basin Plan), as amended. Water quality objectives are based on the beneficial uses identified for the surface waters. The Basin Plan aims to address threats to water quality through various programs and policies, such as establishment of total maximum daily loads of pollutants. The project area is located in a highly urbanized setting served by a network of storm drains and water features. Watersheds that contribute to surface water features in the project area include Bee Canyon, Sunshine Canyon, Weldon Canyon, Grapevine Canyon, and other unnamed blue-line drainages. These watersheds feed into different channels and basins in the project area. These on-site features drain off site via Bull Creek and San Fernando Creek, which converge in the southwest portion of the project area (see Figure 1 and Figure 2). Bull Creek continues south and merges with the Los Angeles River in the southern portion of the San Fernando Valley, in the Sepulveda Basin Recreation Area.

Bull Creek is impaired under Clean Water Act Section 303(d) with ammonia and toxicity, and the Los Angeles River, downstream of the confluence with Bull Creek, is impaired with ammonia, benthic community effects, cadmium, copper, cyanide, indicator bacteria, lead, nutrients (algae), oil, toxicity, trash, and pH (SWRCB 2017). Stormwater runoff from the project area during proposed annual vegetation and soil removal operations could contribute limited amounts of pollutants to receiving waters, such as sediment, litter, and/or fuels and greases. In addition, annual vegetation management and soil excavations would result in temporary disturbance of soils. Sediment transport (e.g., high turbidity) has not been included as a water quality impairment under Clean Water Act Section 303(d).

The proposed project involves annual (or as-needed) removal of overgrown vegetation and typically up to 2 feet of sediments from several facilities located throughout the project area, including drainage channels, drain lines, drainage ditches, a detention basin, San Fernando Creek, and the Bull Creek Extension Channel. The Los Angeles RWQCB regulates urban runoff discharges under National Pollutant Discharge Elimination System (NPDES) permit regulations. NPDES permitting requirements cover runoff discharged from point sources (e.g., industrial outfall discharges) and non-point sources (e.g., stormwater runoff). The State Water Resources Control Board requires dischargers whose projects disturb 1 acre or more of soil to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; SWRCB 2009). However, the Construction General Permit specifically exempts routine maintenance activities conducted by utility service providers as long as the original line and grade, hydraulic capacity, or original purpose of the facility is maintained. The proposed project would thus be exempt from requiring coverage under the Construction General Permit, and preparation and implementation of a stormwater pollution prevention plan would not be required by law, provided that such activities remain within LADWP existing facilities and rights-of-way.

In the case of removing sediment or any other grading activities, LADWP would implement AMM-BIO-4, AMM-BIO-5, and AMM-BIO-6, detailed below.

Vegetation removal from water storage and distribution facilities would expose soils to erosion pending revegetation. Erosion of these soils could result in downstream sedimentation of Bull Creek and the Los Angeles River. Similarly, sediment removal activities, including excavation, temporary stockpiling, and off-site transport of sediments, could result in short-term erosion and sedimentation of downstream waterways. Erosion, sediment transport, and sedimentation are natural fluvial processes and are only considered a water quality issue where anthropogenic activities cause excessively high erosion and turbidity beyond natural background levels (i.e., to a degree that they cause the loss or impairment of beneficial uses). Because the VNC is located on sandy alluvial soils, storm runoff is generally very turbid. Therefore, turbidity would only be excessive in the event that total suspended solids concentrations associated with proposed maintenance activities were in excess of natural conditions within and downstream of the project area. Potential elevated total suspended solids concentrations associated with erosion-induced or resuspension of sedimentation of downstream Bull Creek and the Los Angeles River would be minimized through implementation of AMM-BIO-4, Turbidity and Siltation.

Non-stormwater discharges during annual soil removal activities, such as dewatering of excavations and trenches, are not anticipated due to the shallow nature of the excavations (i.e., typically 2 feet or less). Incidental leaks or spills of petroleum products from equipment, or inadvertent releases of maintenance materials, could result in short-term water quality degradation if runoff containing the materials entered receiving waters in sufficient quantities to exceed water quality objectives. Potential elevated chemical concentrations of downstream Bull Creek and the Los Angeles River would be minimized through implementation of AMM-BIO-5, Equipment and Access, and AMM-BIO-6, Pollutants, Litter, and Cleanup.

Potentially adverse water quality impacts associated with vegetation management and sediment removal activities would be reduced to **less-than-significant** levels with incorporation of AMM-BIO-4, Turbidity and Siltation; AMM-BIO-5, Equipment and Access; and AMM-BIO-6, Pollutants, Litter, and Cleanup.

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

Less-Than-Significant Impact. The proposed project would not require groundwater extraction from the project area. During the proposed project, minor amounts of water would be required for various uses, such as dust control. The water used for these purposes would come from treated water supplies or approved reclaimed water supplies. 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 vegetation and sediment removal activities.

The proposed project involves annual, or as-needed, removal of overgrown vegetation and removal of (generally) up to 2 feet of sediments from drainage channels, drain lines, drainage ditches, a detention basin, San Fernando Creek, and the Bull Creek Extension Channel. Existing soft-bottom drainage features would continue to be underlain by permeable sediments after implementation of the proposed project. Proposed maintenance activities would not interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or lowering of the local groundwater table. As a result, impacts 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 or through the addition of impervious surfaces, in a manner which would:

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

Less-Than-Significant Impact. All proposed project activities would occur in existing water storage and conveyance facilities located throughout the project area. Annual, or as-needed, vegetation management and sediment removal would not alter the existing drainage patterns of these constructed facilities and modified drainages. As discussed in Section 3.10(a), potentially adverse erosion related impacts would be reduced to **less-than-significant** levels with incorporation of AMM-BIO-5, Equipment and Access.

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

Less-Than-Significant Impact. All proposed project activities would occur in existing water storage and conveyance facilities located throughout the project area, and, thus, proposed project activities would not alter existing drainage patterns in the project area. However, surface flow velocities would increase as a result of vegetation and sediment removal, because the vegetation currently acts as a flow velocity inhibitor, which allows more water to percolate into on-site soils due to decreased runoff velocities. However, increased runoff would be offset by the increased capacity of the drainage facilities following sediment removal, because greater capacity would accommodate the increased flow volumes (including flood flows). In addition, conditions following proposed maintenance activities would approximate original design conditions, including a general lack of vegetation and sediment accumulation within the work areas, resulting in overall beneficial impacts; therefore, impacts would be **less than significant**.

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

Less-Than-Significant Impact. As discussed in Section 3.10(c)(iii), conditions following proposed project activities would approximate original design conditions, including a general lack of vegetation and

sediment accumulation within the work areas, resulting in overall beneficial impacts. In addition, as discussed in Section 3.10(c)(iii), potentially adverse water quality impacts associated with ground-disturbing and non-ground-disturbing activities would be reduced to less than significant with incorporation of AMM-BIO-4, AMM-BIO-5, and AMM-BIO-6. The proposed project would not create or contribute runoff water in excess of the capacity of existing or planned stormwater drainage systems, and it would not contribute substantial additional sources of polluted runoff; therefore, impacts would be **less than significant**.

iv) Impede or redirect flood flows?

No Impact. The proposed project does not include structures that would impede or redirect flood flows; therefore, **no impacts** would occur.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less-Than-Significant Impact. As discussed in Section 3.10(c)(iii), with regard to flooding, surface flow velocities would increase as a result of vegetation and sediment removal because the vegetation currently acts as a flow velocity inhibitor, which allows more water to percolate into on-site soils due to decreased runoff velocities. However, increased runoff would be offset by the increased capacity of the drainage facilities following sediment removal, because greater capacity would accommodate the increased flow volumes. In addition, conditions following proposed project activities would approximate original design conditions, including a general lack of vegetation and sediment accumulation within the facilities, resulting in overall beneficial impacts related to flooding. No potential sources of pollutants would be located in areas that would be receiving flood flows. Additionally, the project area is not located in proximity to the Pacific Ocean and, therefore, would not be subject to inundation by tsunamis. The on-site LAR would be susceptible to seiches in the event of a strong earthquake. Water could overflow the banks of the LAR as a result of extreme oscillation of water during an earthquake. Potential flooding impacts would be localized, depending on the location of the overflow. However, the proposed project would not exacerbate the potential for seiches to occur, and no potential sources of pollutants would be located in areas that would be receiving flood flows. For these reasons, impacts would be **less than significant**.

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

Less-Than-Significant Impact. As discussed in Section 3.10(a), potentially adverse water quality impacts associated with proposed ground-disturbing and non-ground-disturbing activities would be reduced to less than significant with incorporation of AMM-BIO-4, Turbidity and Siltation; AMM-BIO-5, Equipment and Access; and AMM-BIO-6, Pollutants, Litter, and Cleanup. The proposed project would not substantially degrade water quality and would not conflict or obstruct implementation of the Los Angeles Region Basin Plan. Additionally,

as discussed in Section 3.10(b), the proposed project would not result in the depletion of groundwater, nor would the project interfere with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table impacts. As such, impacts related to water quality and groundwater management would be **less than significant**.

References

City of Los Angeles. 1996. "Safety Element." *City of Los Angeles General Plan*. November 26, 1996. Accessed September 2018. https://planning.lacity.org/cwd/gnlpln/saftyelt.pdf.

SWRCB (State Water Resources Control Board). 2009. *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*. Order No. 2009-0009-DWQ.

SWRCB. 2017. "2014 and 2016 California 303(d) List of Water Quality Limited Segments." *Final 2014 and 2016 Integrated Report (CWA Section 303(d) List / 305(b) Report)*. October 3, 2017. Accessed September 2018. https://www.waterboards.ca.gov/water_issues/programs/tmdl/2014_16state_ir_reports/category5_report.shtml.

3.11 Land Use and Planning

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

a) Would the project physically divide an established community?

No Impact. The proposed project includes maintenance activities that would occur within existing facilities at the VNC and would not divide an established community. The proposed maintenance activities would not divide an established community and would thus result in **no impact**.

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

No Impact. The proposed maintenance activities would occur within the VNC. According to the City of Los Angeles Zone Information and Map Access System, the project area contains two separate land use

designations: Public Facilities and Open Space (Los Angeles Department of City Planning n.d.). The Granada Hills–Knollwood Community Plan also designates the project area as Public Facilities and Open Space (Los Angeles Department of City Planning 2015). The proposed maintenance activities would not result in a change in zoning or land use designations, and thus would not introduce any inconsistencies with these existing designations. The proposed project would not conflict with any applicable land use plans, policies or regulations; therefore, there would be **no impact**.

References

Los Angeles Department of City Planning. n.d. "Zone Information and Map Access System." Accessed June 2018. http://zimas.lacity.org.

Los Angeles Department of City Planning. 2015. *Granada Hills–Knollwood Community Plan*. Accessed June 4, 2018. https://planning.lacity.org/complan/pdf/ghlcptxt.pdf.

3.12 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 State Mining and Reclamation Act of 1975 (SMARA; California Public Resources Code Section 2710 et seq.) requires that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur, thereby potentially restricting or preventing future mineral extraction on such lands.

As mandated by SMARA, aggregate mineral resources within the state are classified by the State Mining & Geology Board through application of the Mineral Resource Zone (MRZ) system. The MRZ system is used to

map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ system classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors (DOC 2000):

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

According to the SMARA study area map for the San Fernando Valley and adjacent production-consumption regions, the project area is not within an MRZ-2 area, meaning there are no known significant mineral deposits (California Division of Mines and Geology 1979). According to the California Geological Survey's (2010) Geologic Map of California, the project area consists of Pleistocene and Pliocene sandstone, shale, and gravel deposits, mostly loosely consolidated; and unconsolidated and semi-consolidated alluvium, lake, playa and terrace deposits. The proposed project would not result in the loss of availability of a known mineral resource, given the project area's lack of identification as a known mineral resource site. Therefore, the proposed project would result in **no impact**.

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. According to the Conservation Element of the City's General Plan, the primary mineral resources in the City are rock, gravel, and sand deposits (City of Los Angeles 2001). Significant potential deposit sites have been identified by the State Geologist, and are mapped in Exhibit A of the City's General Plan. Exhibit A shows that the project area is outside of any mineral resource zones, oil drilling districts, or state-designated oil fields. The proposed project would result in **no impact** to the availability of a locally important mineral resource recovery site.

References

California Division of Mines and Geology. 1979. "Generalized Aggregate Resource Classification Map: San Fernando Valley and Adjacent Production–Consumption Regions" [map]. 1:500,000. Special Report 143, Plate 2.1.

California Department of Conservation, Division of Mines and Geology. Accessed September 2018. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_143/PartII/Plate_2-1.pdf.

California Geological Survey. 2010. "Geologic Map of California" [map]. Scale not given. California Department of Conservation, California Geological Survey. Accessed September 2018. http://maps.conservation.ca.gov/cgs/gmc/App.

City of Los Angeles. 2001. "Conservation Element." In *City of Los Angeles General Plan*. September 26, 2001. Accessed September 2018. https://planning.lacity.org/cwd/gnlpln/consvelt.pdf.

DOC (Department of Conservation). 2000. Guidelines for Classification and Designation of Mineral Lands. Accessed August 2018. http://www.conservation.ca.gov/smgb/guidelines/documents/classdesig.pdf.

3.13 Noise

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) 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?	☐	☐	☒	☐

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

Less-Than-Significant Impact. The City regulates noise through several sections of its Municipal Code, as follows:

- 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.
- 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 maintenance activities 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

The VNC and surrounding area are subject to traffic noise associated with adjacent roadways, including I-5, I-405, Sepulveda Boulevard, Woodley Avenue, and Rinaldi Street. Other noise sources include occasional distant aircraft noise, distant landscaping noise, and birds. Additionally, periodic noise from on-site maintenance activities (authorized under SAA 1600-2004-0268-R5) already occurs.

Noise measurements were conducted near the project area on June 7, 2018, 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 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.

Five short-term noise measurements (ST1 through ST5) were conducted, each lasting 15 minutes in duration. These noise measurement locations represent key potential sensitive receptors or sensitive land uses adjacent to the VNC. The noise measurement locations are shown on Figure 6, Noise Measurement Locations; the average noise levels at the short-term noise measurement locations are provided in Table 3-12, Noise Measurement Summary. As shown in Table 3-12, energy equivalent noise levels (L_{eq}s) range from approximately 59 to 71 dBA at locations adjacent to the project area. The primary noise sources consisted of traffic along the adjacent roads.

Table 3-12. Noise Measurement Summary

Receptors	Location/Address (Land Use Type)	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	12734 Woodley Avenue (Residential)	June 7, 2018	9:33 a.m.–9:48 a.m.	63.9	82.1
ST2	12000 Woodley Avenue (Residential)	June 7, 2018	9:58 a.m.–10:13 a.m.	65	85.2
ST3	Granada Hills Little League Field (Recreational)	June 7, 2018	10:30 a.m.–10:45 a.m.	70.9	81.7
ST4	11566 Collette Avenue (Residential)	June 7, 2018	10:52 a.m.–11:07 a.m.	58.6	78.8
ST5	15625 Odyssey Drive (Residential)	June 7, 2018	11:22 a.m.–11:37 a.m.	64.2	86.8

Source: Appendix D.
dBA = A-weighted decibels; L_{eq} = energy equivalent noise level ; L_{max} = maximum sound level during the measurement interval; ST = short term.

Short-Term Noise

No Impact. No construction activities would occur as a result of or as a part of the proposed project. Therefore, no construction noise would occur, and there would be **no impact** from construction noise.

Long-Term Operational (Maintenance) Noise

LADWP seeks to perform routine vegetation management and maintenance activities at multiple work areas throughout the VNC to ensure that the critical infrastructure facilities are functioning properly. For a detailed description of the proposed project, please see Chapter 2, Project Description.

Based on information provided by LADWP, it is assumed that the first year of maintenance of the proposed project would commence in September 2019 and would last approximately 5 months, ending in January 2020. The subsequent recurring annual maintenance was assumed to begin in 2020 and occur annually thereafter between September and January. The project phasing schedule and duration, vehicle trip assumptions, and off-road equipment used for estimating project-generated emissions are shown in Table 3-2 (see Section 3.3, Air Quality).

As shown in Table 3-2, maintenance activities would require the use of standard heavy equipment such as loaders, dozers, backhoes, excavators, and cranes. The range of maximum noise levels for various types of equipment at a distance of 50 feet is depicted in Table 3-13, Heavy Equipment Maximum Noise Emission Levels. The noise values represent maximum noise generation, or full-power operation of the equipment. Simultaneous operation of more than one piece of equipment would increase the sound level of the equipment operating individually. 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 maintenance 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 project activities is generally lower, since maximum noise generation may only occur up to 50% of the time.

Table 3-13. Heavy 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: DOT 2006.
dBA = A-weighted decibel

Noise in this analysis is usually expressed in terms of L_{eq}, which is the average sound level for any specific time period, on an energy basis. For example, the L_{eq} for 1 hour is the energy-averaged noise level during the hour. The average noise level is based on the acoustic energy content of the sound. L_{eq} can be thought of as the level of a continuous noise, which has the same energy content as the fluctuating noise level. L_{eq} is expressed in units of dBA. The L_{eq} would generally be lower than the maximum noise levels expressed in Table 3-13.

The nearest off-site sensitive receptors to the project area varies based on the location of the work area. The San Fernando Creek work area has the nearest sensitive receptors, which are located approximately 350 feet from the nearest proposed maintenance activities. More typically,[12] maintenance activities for San Fernando Creek would take place approximately 750 feet from adjacent sensitive receptors. For most of the other work areas, the nearest sensitive receptors are more than 1,000 feet away.

The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2018)[13] was used to estimate maintenance activity noise levels at the nearest noise-sensitive land uses. Although the model was funded and promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects because the same types of equipment used for roadway projects are also used for other project types. Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical demolition activity patterns (FHWA 2018). Those default duty-cycle values were used for this noise analysis.

Using the Federal Highway Administration's RCNM construction noise model and maintenance activity information (types and number of construction equipment by facility), the estimated noise levels from proposed project activities (summarized in Table 3-14, Maintenance Activity Noise Modeling Summary Results) were calculated for both the relatively brief periods of time during which activities would take place at the nearest source–receiver distances, and during the longer periods of time when activities would take place both near and far from adjacent receivers. The RCNM inputs and outputs are provided in Appendix D, Noise Modeling Results.

Table 3-14. Maintenance Activity Noise Modeling Summary Results

Work Area	Nearest or Typical Maintenance Activity Distance	Leq (dBA)
Bee Drainage Channel	*Nearest Maintenance Work (575 feet)*	58.9
	Typical Maintenance Work (750 feet)	56.6
Segment of Bull Creek Extension	*Nearest Maintenance Work (1100 feet)*	54
	Typical Maintenance Work (1200 feet)	53.2
East Channel	*Nearest Maintenance Work (1100 feet)*	53.3

12 Because proposed project activities would take place both near and far relative to any one noise-sensitive receiver, the concept of the "acoustic center" is used for providing typical noise levels. The acoustic center is the idealized point from which the energy sum of all activity noise, near and far, would be centered. The acoustic center is derived by taking the square root of the product of the nearest and the farthest equipment noise–receiver distances.

13 "Construction Noise" is used in the title, but where construction noise is referenced in this analysis, it applies to noise from the use of heavy equipment during maintenance activities.

Table 3-14. Maintenance Activity Noise Modeling Summary Results

Work Area	Nearest or Typical Maintenance Activity Distance	Leq (dBA)
	Typical Maintenance Work (1600 feet)	50
LAR North Dike Stormwater Basin	*Nearest Maintenance Work (2000 feet)*	48.1
	Typical Maintenance Work (2100 feet)	47.6
LAR UV Plant Drainage and V-Ditch	*Nearest Maintenance Work (1800 feet)*	51.9
	Typical Maintenance Work (2300 feet)	49.8
Lower San Fernando Detention Basin	*Nearest Maintenance Work (1500 feet)*	53.5
	Typical Maintenance Work (2300 feet)	49.8
Middle Debris Basin	*Nearest Maintenance Work (750 feet)*	56.6
	Typical Maintenance Work (1500 feet)	50.6
San Fernando Creek	*Nearest Maintenance Work (350 feet)*	62.7
	Typical Maintenance Work (750 feet)	56.6
San Fernando Gate Drain	*Nearest Maintenance Work (1300 feet)*	51.8
	Typical Maintenance Work (1800 feet)	49
Upper Debris Basin	*Nearest Maintenance Work (1800 feet)*	49
	Typical Maintenance Work (1900 feet)	48.5
Upper Northeast Drainage	*Nearest Maintenance Work (1100 feet)*	53.3
	Typical Maintenance Work (1200 feet)	53.2
Upper San Fernando Drain Line	*Nearest Maintenance Work (2100 feet)*	47.6
	Typical Maintenance Work (2700 feet)	45.5
Upper San Fernando Drain Line Feature 1	*Nearest Maintenance Work (2500 feet)*	49.1
	Typical Maintenance Work (2750 feet)	48.3
Upper San Fernando Drain Line Feature 2	*Nearest Maintenance Work (2500 feet)*	46.1
	Typical Maintenance Work (2550 feet)	46
Yarnell Debris Basin	*Nearest Maintenance Work (1800 feet)*	51.9
	Typical Maintenance Work (2100 feet)	50.6

Source: Appendix D
Notes: dBA = A-weighted decibels; LAR = Los Angeles Reservoir; L_{eq} = energy equivalent noise level (time-averaged sound level); UV = ultraviolet.

As presented in Table 3-14, the highest noise levels are predicted to occur at residences near San Fernando Creek, where noise levels would be as high as approximately 63 dBA L_{eq} when maintenance activities would take place within approximately 350 feet of residential land uses. More typically, maintenance activity noise near San Fernando Creek would be approximately 57 dBA L_{eq}. The daytime ambient noise levels for residential locations at these locations as represented by the ST3 and ST4 measurements (see Table 3-12, Noise Measurement Summary), range from approximately 59 to 71 dBA L_{eq}. At ST3, where the measured ambient noise level was approximately 71 dBA L_{eq}, the noisiest phase of maintenance (i.e., approximately 63 dBA L_{eq} as shown in Table 3-14) would be approximately 8 dB less. At ST4, where the measured ambient noise level was approximately 59

dBA L_{eq} (see Table 3-12), the noisiest phase of proposed project activities (i.e., approximately 63 dBA L_{eq} as shown in Table 3-14) would be approximately 4 dB higher than the ambient noise level. At ST4 the typical noise level of 57 dBA L_{eq} (see Table 3-14) would be approximately 2 dB lower than the ambient level of 59 dBA L_{eq}. Generally, as shown in Table 3-14, noise from the proposed maintenance activities would range from approximately 45 to 59 dBA L_{eq}, and would be less than typical ambient noise levels in the project area.

Although nearby off-site residences would be exposed to slightly elevated noise levels during certain project activities, the increased noise levels would typically be less than 3 dB (and therefore barely perceptible), and exposure would be short term and would cease upon completion of proposed project activities. Activities associated with the proposed project would take place within the allowable hours per Section 41.40 of the City of Los Angeles Municipal Code (i.e., Monday through Friday between 7:00 a.m. and 9:00 p.m., Saturday between 8:00 a.m. and 6:00 p.m., and would not occur at any time on Sunday or on national holidays). Maintenance activity noise would not violate the City's standards for maintenance; therefore, the noise impact would be **less than significant**.

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

Less-Than-Significant Impact. Maintenance activities that might expose persons to excessive groundborne vibration or groundborne noise could cause a potentially significant impact. Groundborne vibration information related to maintenance activities (which would use conventional equipment used for construction work) has been collected by the California Department of Transportation (Caltrans 2013). Information from the California Department of Transportation indicates that people begin to become annoyed by continuous vibrations with a peak particle velocity of approximately 0.1 inches per second. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities of approximately 0.089 inches per second or less at a distance of 25 feet (DOT 2006). Ground-borne vibration is typically attenuated over short distances. At the distance from the nearest residences to where proposed project activities would be occurring in the project area (approximately 350 feet), and with the anticipated heavy equipment, the peak particle velocity vibration level would be approximately 0.002 inches per second. These vibration levels would be well below the vibration threshold of potential annoyance of 0.1 inches per second.

The primary impact with construction vibration is related to building damage, which typically occurs at vibration levels of 0.5 inches per second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment that would be used would include backhoes, front-end loaders, and flatbed trucks. Pile driving, blasting, or other special construction techniques would not to be used for the proposed project's activities. As discussed above, the anticipated vibration level associated with proposed maintenance activities would be approximately 0.002 inches per second, which is well below the threshold of 0.5 inches per second for building damage; therefore, potential vibration impacts would be **less than significant**.

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

Less-Than-Significant Impact. The project area is located approximately 4 miles northwest of Whiteman Airpark and 4.4 miles north of Van Nuys Airport; it is not within the Los Angeles County Airport Influence Area. The project area 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 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; therefore, impacts would be **less than significant**.

References

Caltrans (California Department of Transportation). 2013. *Transportation and Construction Vibration Guidance Manual*. Sacramento, California: California Department of Transportation. September 2013. Accessed October 2018. http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf.

DOT (U.S. Department of Transportation). 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Accessed October 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

FHWA (Federal Highway Administration). 2018. "Construction Noise Model Input/Output" [digital FHWA data]. FHWA Roadway Construction Noise Model (FHWA RCNM), Software Version 1.1. Accessed July 2018. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm.

Los Angeles County Airport Land Use Commission. 2004. *Los Angeles County Airport Land Use Plan*. Revised December 1, 2004. Accessed October 2018. http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf.

3.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Would the project induce substantial unplanned 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 involves routine vegetation management and maintenance activities at the VNC in order to ensure that the facilities are functioning properly. The proposed project activities would not involve the expansion of existing facilities or construction of new facilities. The capacity of existing facilities would remain as originally designed. As a result, the proposed project would not have any direct or indirect impacts on population growth in the area. Similarly, no homes or employment opportunities that would directly facilitate population growth are proposed. The workforce that would implement/perform proposed maintenance activities are existing LADWP workers. Thus, there would be no growth as a result of implementation of the proposed project. The proposed project would not directly or indirectly induce substantial population growth; therefore, there are **no impacts** associated with population growth resulting from the proposed project.

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

No Impact. As discussed in 3.13(a), the proposed project involves routine vegetation management and maintenance activities at facilities throughout the VNC. The proposed project activities would not require the displacement of existing housing or the construction of replacement housing elsewhere; therefore, the proposed project would result in **no impact** to existing housing.

3.15 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

Less-Than-Significant Impact. According to the Fire Hazard Severity Zones Maps, the project area is designated as being outside the VHFHSZ, or Non-VHFHSZ, for both local responsibility and state responsibility area maps (CAL FIRE n.d.). The proposed project includes vegetation management and sediment removal. The use of maintenance equipment around flammable vegetation could result in the need for fire suppression services. However, LADWP has procedures in place to minimize the risk of fire during maintenance activities. These procedures include fire safety measures in compliance with Chapter 33 of the California Fire Code. Gasoline-powered or diesel-powered machinery used during maintenance are equipped with standard exhaust controls and muffling devices that also act as spark arrestors. Fire containment and extinguishing equipment are available and accessible during maintenance activities. The maintenance crew is trained in the use of the fire suppression equipment and is not permitted to idle vehicles on the job site when they are not in use. Where hot work is necessary, it is performed in compliance with the California Fire Code's Chapter 35, Welding and Other Hot Work, and the National Fire Protection Association's 51-B, Fire Prevention During Welding, Cutting and Other Hot Work. Therefore, it is not anticipated that the proposed project would create a substantial fire hazard or require new or expanded facilities and thus would have a **less-than-significant** impact.

Police Protection

No Impact. The proposed project would not modify facilities in such a way as to present an attractive nuisance to the public that would require the need for additional police services. In addition, the VNC is not publicly accessible and proposed maintenance activities would not require additional police protection nor would they require the expansion of any police facilities. As a result, there would be **no impact** to police protection.

Schools

No Impact. The proposed project would not involve a housing component or expansion of existing facilities that could result in population growth and increased demands on schools within the region. The proposed project would be conducted using existing LADWP staff. As a result, there would be **no impact** to schools.

Parks

No Impact. The project area is in close proximity to parks and recreational areas; however, none of the project activities would result in adverse physical impacts to parks or recreational areas. The proposed project activities would not have substantial adverse physical impacts on the use of parks, and no new parks would need to be constructed or expanded as a result of the proposed project. Therefore, the project would result in **no impact** to parks.

Other Public Facilities

No Impact. The proposed project activities may occur near or in proximity to other public facilities; however, none of the activities would result in adverse physical impacts to public facilities. The proposed project would not involve a housing component or other components that would result in population growth or increased demands on public facilities within the region. The proposed project would not expand existing or construct new infrastructure that would result in population growth and increased demands on public facilities. Therefore, there would be **no impact** to other public facilities.

References

CAL FIRE (California Department of Forestry and Fire Protection). n.d. "Fire Hazard Severity Zones Maps." Accessed June 2018. http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones.

3.16 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. The proposed project includes maintenance activities and would not include any land uses typically associated with an increased use of existing park and recreational facilities. The proposed project would use existing LADWP staff for the maintenance activities. The proposed project does not include any growth-inducing components, such as new housing, and thus would not directly or indirectly result in an increase in the use of recreational facilities. Therefore, the project would not generate a need for new or expanded recreational facilities. Further, the proposed project does not include any recreational facilities or require the construction or expansion of recreational facilities. Therefore, the proposed project would result in **no impact** to parks and recreational facilities.

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. As discussed in 3.15(a), the proposed project includes maintenance activities for existing infrastructure and does not include recreational facilities or require the construction or expansion of recreational facilities. The proposed project would not be growth-inducing, and thus would not require the construction or expansion of recreational facilities; therefore, the proposed project would result in **no impact**.

3.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

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

Less-Than-Significant Impact. The proposed project would result in daily trips that would range from four to 28 passenger-car equivalent (PCE) trips at each work area (Appendix E, Trip Generation Memo). There would be no AM peak-hour trips since all workers and haul trucks would arrive at each facility before the AM peak hours, starting at 7:00 a.m. For the PM peak hour, trips from each work area would range between two and 14 PCE trips. The proposed project activities at each work area would not overlap because LADWP proposes to use the same in-house crew at each area. Therefore, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin, separately. Maintenance activities at those area would generate an approximate total of 28 PCE daily trips: zero PCE AM peak-hour trips, and 14 PCE PM peak-hour trips at each the Upper Debris Basin and Middle Debris Basin. Per the City's Transportation Impact Study Guidelines, neither a Technical Memorandum nor Traffic Impact Study would be required for the proposed project since it would generate less than 25 to 42 AM or PM peak-hour vehicle trips (City of Los Angeles Department of Transportation 2016). Furthermore, traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the work area under maintenance. All proposed project activities would occur on the VNC site and would not require any (temporary) closures to public streets. Due to the relatively low and temporary traffic volumes generated by the proposed project, it would not have a measurable impact on the adjacent street network, and therefore, would not conflict with any plan, ordinance, or policy establishing measures of effectives for the performance of the circulation system; therefore, impact would be **less than significant.**

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Impact. CEQA Guidelines Section 15064.3(b) focuses on newly adopted criteria (vehicle miles traveled) for determining the significance of transportation impacts. In compliance with newly adopted CEQA guidelines and City of Los Angeles CEQA Thresholds Guide Update, the City's Department of Transportation has recently updated its transportation assessment guidelines (City of Los Angeles Department of Transportation 2019). For land use projects, the City has developed a screening criterion of net increase of 250 or more daily vehicle trips to address this threshold and assess whether a project would cause substantial vehicle miles traveled. The proposed project would generate occasional maintenance-related trips that would contribute a maximum of 28 daily trips and would not cause a substantial increase in daily vehicle miles traveled. Therefore, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **No impact** would occur.

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

No Impact. The proposed project would occur on the VNC site, which is not accessible to drivers traveling on surrounding public roadways. LADWP workers would access the project area using on-site roadways, and they would follow the rules already in place at the VNC site, including speed limits, signage, and other rules of the road. Therefore, the proposed project would not increase hazards due to a design feature or incompatible uses and there would be **no impact**.

d) Would the project result in inadequate emergency access?

No Impact. The VNC site is more than 1,300 acres and none of the project activities would overlap between work areas, thereby creating conflicts, blocked roadways, or impediments to emergency vehicles. Therefore, there would be **no impact** to emergency access as a result of the proposed project.

Reference

City of Los Angeles Department of Transportation. 2016. Transportation Impact Study Guidelines. City of Los Angeles Department of Transportation, Bureau of Planning and Development Services. Accessed October 2018. http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

City of Los Angeles Department of Transportation. 2019. *Transportation Assessment Guidelines*. City of Los Angeles Department of Transportation. Accessed October 2019. https://ladot.lacity.org/sites/g/files/wph266/f/TA_Guidelines_%2020190731.pdf.

3.18 Tribal Cultural Resources

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

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

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

Less-Than-Significant Impact. As discussed in 3.5(b), Cultural Resources, a California Historical Resources Information System records search was conducted for the project area at the South Central Coastal Information Center on April 30, 2018. No tribal cultural resources were identified as a result of the records search. In an SLF results letter dated May 7, 2018, the NAHC stated that the SLF search was completed with negative results. Additionally, no specific tribal cultural resources (TCRs) were identified by California Native American tribes as part of LADWP's AB 52 notification and consultation process (see Section 3.18[a][ii] for a description of this process). Therefore, the proposed project would not adversely affect TCRs that are listed or eligible for listing in the state or local register. As such, impacts would be **less than significant**.

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

Less-Than-Significant Impact with Mitigation Incorporated. There are no resources in the project area that have been determined by LADWP to be significant pursuant to the criteria set forth in Public Resources Code Section 5024.1. Further, no specific TCRs were identified in the project area by the NAHC through the SLF search or by LADWP as part of the AB 52 notification and consultation process. In July 2018, LADWP sent notification of the proposed project to all California Native American tribal representatives that have requested project notifications from LADWP pursuant to AB 52 and that are on file with the NAHC as being traditionally or culturally affiliated with the geographic area. Three responses were received via email and/or phone call by LADWP as part of the AB 52 consultation process and are summarized below.

- On September 4, 2018, an in-person consultation meeting was held with Robert Dorame of the Gabrielino Tongva Tribe. LADWP gave a brief overview of the project and summarized the results of the archaeological survey. Mr. Dorame identified a number of resources within the VNC he believed were significant, and provided guidance documents related to surveys and monitoring. LADWP explained that it is seeking long-term permits to be able to perform maintenance work, which will have minimal impacts on previously undisturbed areas. Mr. Dorame presented information about what his tribe would consider significant resources, and indicated that he would prefer monitoring during maintenance activities and LADWP agreed to provide mitigation (MM-TCR-1 through MM-TCR-4) to address the potential for unexpected discoveries during maintenance activities.
- On September 14, 2018, a conference call consultation meeting was held with Jairo Avila, the Tribal Historic Preservation Officer for the Fernandeno Tataviam Band of Mission Indians. LADWP gave a brief overview of the project and summarized the results of the archaeological survey. Mr. Avila requested a copy of the archaeological survey report and results of the record search. He also requested that he be contacted in the event that any artifacts are discovered during project activities.
- On August 1, 2018, LADWP received a written request for consultation from the Gabrieleno Band of Mission Indians-Kizh Nation. Subsequently, a conference call consultation meeting was scheduled for October 17, 2018; however, on the morning of October 17, 2018, LADWP received an email from the tribe indicating that they have elected to defer the proposed project.

LADWP has determined that no TCRs are present in the project area. However, the AB 52 consultation between LADWP and Mr. Dorame suggests there is still some potential for unknown subsurface TCRs to be impacted by the proposed project. In the event that unknown subsurface TCRs are uncovered during ground disturbance, and such resources are not identified and avoided or properly treated, a potentially significant impact could result. However, mitigation measures **MM-TCR-1** through **MM-TCR-4** would protect TCRs in the event that any were discovered during project maintenance activities. Upon implementation of **MM-TRC-1** through **MM-TRC-4**, impacts would be **less than significant with mitigation incorporated**.

MM-TCR-1 To reduce potential impacts to unanticipated tribal cultural resources (TCRs) during project implementation, maintenance personnel shall undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated TCR discoveries are treated appropriately. The WEAP training shall provide specific details on the kinds of Native American cultural resources that may be identified during ground-disturbing activities.

MM-TCR-2 While no tribal cultural resources (TCRs) have been identified that may be affected by the project, the following approach for the inadvertent discovery of TCRs has been prepared to ensure there are no impacts to unanticipated resources. Should a potential TCR be encountered during maintenance activities, all work in the immediate vicinity of the discovery (within 50 feet) shall cease, Los Angeles Department of Water and Power (LADWP) shall be notified, and a qualified archaeologist meeting Secretary of Interior standards shall assess the find. LADWP will notify Native American tribes consulting under Assembly Bill 52. If the potential resource is archaeological in nature, appropriate management requirements shall be implemented as outlined in **MM-CUL-2**.

MM-TCR-3 If the Los Angeles Department of Water and Power (LADWP) determines that the potential resource is a tribal cultural resources (TCR) (as defined by PRC, Section 21074), tribes consulting under Assembly Bill 52 shall be provided a reasonable period of time, typically 5 days from the date that a new discovery is made, to conduct a site visit and make recommendations regarding future ground disturbance activities as well as the treatment and disposition of any discovered TCRs. Depending on the nature of the resource and tribal recommendations, review by a qualified archaeologist may be required. Implementation of proposed recommendations will be made based on the determination of LADWP that the approach is reasonable and feasible. The preferred mitigation is to avoid impacts to TCRs, but if that is not feasible, a mitigation and treatment plan shall be developed in consultation with the consulting tribes. Work on the other areas outside of the buffered area may continue during this assessment period. All activities shall be conducted in accordance with regulatory requirements.

MM-TCR-4 If significant Native American cultural resources are discovered during operations and maintenance and avoidance cannot be ensured, a qualified archaeologist shall be retained to develop a Cultural Resources Treatment Plan, the drafts of which shall be provided to the interested tribe(s) for review and comment. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a Native American monitor. The Los Angeles Department of Water and Power shall, in good faith, consult with the interested tribe(s) on the disposition and treatment of any artifacts or other cultural materials encountered during the project.

With adherence to the MM-TCR-1 through MM-TCR-4, the potential for impacts to TCRs would be **less than significant with mitigation incorporated**.

3.19 Utilities and Service Systems

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

a) Would the project require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The proposed project does not require the construction of new or expanded water or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities. The purpose of the proposed project is to provide routine maintenance and vegetation management at existing water conveyance and storage facilities at the VNC to ensure that the facilities are functioning properly. These activities would not result in the construction of new water treatment facilities or expansion of existing facilities; therefore, the project would have **no impact**.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

No Impact. The proposed project would not require additional water supplies and would not require new or expanded entitlements or resources. The proposed project would increase the reliability and longevity of existing infrastructure; there would be no expansion of existing infrastructure. The proposed project may require water for certain activities, including dust suppression and washing down paved areas. LADWP would have sufficient water supplies for such activities, and no new or expanded entitlements would be needed; therefore, the proposed project would have **no impact** on water supplies.

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

No Impact. The proposed project would not result in a greater demand for wastewater treatment or increase the generation of wastewater. The proposed project does not propose activities or land uses generally associated with the generation of wastewater. The proposed project would have **no impact** on wastewater treatment providers and wastewater systems.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-Than-Significant Impact. The proposed project is not anticipated to have a significant impact on solid waste disposal needs. The proposed project would not involve major demolition that could generate a significant amount of solid waste. The proposed project could generate small amounts of solid waste, structural debris, and green waste. All waste produced during implementation of proposed project activities would be removed following the activity and disposed of properly in accordance with federal, state, and local statutes and regulations.

As shown in Table 3-15, Solid Waste Facilities in Los Angeles County, solid waste facilities that are available for the proposed project's disposal needs have a remaining capacity of approximately 2,076.16 million tons and up to 100 years of remaining life expectancy, as of 2013 (County of Los Angeles 2015). The remaining capacity at the available landfills would adequately serve the proposed project. The amount of solid waste generated by proposed project would be much less than the available capacity of existing landfills. Thus, impacts would be **less than significant**.

Table 3-15. Solid Waste Facilities in Los Angeles County*

Solid Waste Facility	Estimated Remaining Capacity	Maximum Daily Capacity	Average Daily Load	Remaining Life
	Million Tons	*Tons*	*Tons*	*Years*
Antelope Valley	12.01	1800	1485	22
Calabasas	6.76	3500	680	15
Chiquita Canyon	2.94	6000	3299	3
Lancaster	13.2	3000	258	14
Mesquite**	600	20000	Not yet operational	100
Southeast Resource Recovery Facility	1370	2240	1504	Not indicated
Sunshine Canyon City/County	65.79	12100	7250	19
Whittier (Savage Canyon)	5.46	350	293	42

Source: County of Los Angeles 2015.
* Table only shows solid waste facilities without restrictions/available for use by the proposed project.
** Out of County, but available for Los Angeles County disposal needs.

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

Less-Than-Significant Impact. As discussed in Section 3.19(f), the proposed project would generate small amounts of solid waste, structural debris, and green waste. All waste produced during the proposed project would be removed and disposed of properly in accordance with federal, state, and local statutes and regulations; therefore, impacts would be **less than significant**.

References

County of Los Angeles. 2015. County of Los Angeles Countywide Integrated Waste Management Plan, 2013 Annual Report. May 27, 2015. Accessed October 2018. https://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=3490&hp=yes&type=PDF.

Kleinfelder. 2012. *Van Norman Complex Stormwater Capture Master Plan, AX-698-1*. January 31, 2018.

3.20 Wildfire

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

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The California Department of Forestry and Fire Protection's Very High Fire Hazard Severity Zones in Local Responsibility Areas map does not identify the project area as being located in an area susceptible to high fire hazard dangers (CAL FIRE n.d.). Therefore, **no impact** related to wildfire would occur.

b) Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The California Department of Forestry and Fire Protection's Very High Fire Hazard Severity Zones in Local Responsibility Areas map does not identify the project area as being located in an area susceptible to high fire hazard dangers (CAL FIRE n.d.). Therefore, **no impact** related to wildfire would occur.

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

No Impact. The California Department of Forestry and Fire Protection's Very High Fire Hazard Severity Zones in Local Responsibility Areas map does not identify the project area as being located in an area susceptible to high fire hazard dangers (CAL FIRE n.d.). Therefore, **no impact** related to wildfire would occur.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The California Department of Forestry and Fire Protection's Very High Fire Hazard Severity Zones in Local Responsibility Areas map does not identify the project area as being located in an area susceptible to high fire hazard dangers (CAL FIRE n.d.). Therefore, **no impact** related to wildfire would occur.

Reference

CAL FIRE (California Department of Forestry and Fire Protection). n.d. "Fire Hazard Severity Zones Maps." Accessed June 2018. http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones.

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

Less-Than-Significant Impact with Mitigation Incorporated. As discussed in this Initial Study, impacts to biological, cultural (archaeological and paleontological), and Native American cultural resources would be **less than significant with the incorporation of mitigation**.

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

Less-Than-Significant Impact with Mitigation Incorporated. The following analysis discusses the proposed project's potential to make a cumulatively considerable contribution to an environmental impact, by resource. Where it has been determined based on the analysis in this Initial Study that no impact would occur in relation to specific resources (i.e., Agriculture and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, and Recreation), the proposed project would inherently not result in a cumulatively considerable impact relative to those resources and no further discussion is provided below. The proposed project would be located entirely within the VNC property, an industrial site in a largely built-out urban area. Table 3-16, Cumulative Projects Near the Proposed Project, includes the list of cumulative projects in the area.

Table 3-16. Cumulative Projects Near the Proposed Project

Status	Project	Project Description	Location
Completed	LA Aqueduct Filtration Plant – UV Treatment Plant	Water Treatment Facility	Within Project Area
Completed	Valley-Rinaldi Tower and Transmission Line Upgrade	Upgrade existing facility and replace 14 circuit miles of transmission line	Rinaldi Street

Table 3-16. Cumulative Projects Near the Proposed Project

Status	Project	Project Description	Location
Under Construction	LA Reservoir UV Treatment Plant	Water Treatment Facility	Within Project Area
Pre-Construction	Distribution Station 86 Battery Energy Storage System	Two separate Battery Energy Storage System containers at existing distribution station	12960 Balboa Boulevard, Los Angeles
Pre-construction	Bull Creek Stormwater Capture Project	Construction of dam to convey flows to Pacoima Spreading Grounds	Chatsworth Street, Granada Hills
Pre-construction	Van Norman Stormwater Capture	Installation of pipeline and stormwater capture improvements	Within Project Area
Under construction	Pacoima Spreading Grounds improvements	Improvements to increase water holding capacity of spreading grounds	Paxton Street and Arleta Avenue, Los Angeles
Pre-construction	Sylmar Village	246 condo units, 9,000-square foot retail, and 9,000-office building	12385 San Fernando Road, Sylmar
Pre-construction	Senior Housing/Mixed Use Project	150 senior housing units and 25,000-square foot medical office	12385 San Fernando Road, Sylmar
Pre-construction	Lakeside Park	Development of a 36-acre park with five baseball fields and four full-size soccer fields, a skate plaza, office space, and parking lots.	15300 W Lakeside Street, Sylmar
Pre-construction	Senior Residences and Amenities	1,250 units of senior residences and amenities	12415 San Fernando Road, Sylmar
Pre-construction	Maclay Street Apartments/Commercial and Retail	141 units and 10,115-square foot commercial space	13260 West Maclay Street, Mission Hills
Pre-construction	East San Fernando Valley Transit Corridor Project	major mass transit project	East San Fernando Valley Transit Corridor

Sources: LADWP n.d.; DOT and Metro 2016.

Aesthetics

Cumulative impacts related to aesthetics could result from projects that combine to change the visual character of the area. Because access to the project area is limited and the majority of the views into the project area are blocked by existing topography, the project area is largely isolated from the surrounding areas. Nonetheless, the proposed project would result in visual changes that are minor in magnitude and would be located within the context of existing facilities at the VNC. Activities that would occur as part of the proposed project would

result in only minor, incremental visual changes that would be characteristic of activities that already occur at the VNC. Therefore, the proposed project, combined with the cumulative projects provided in Table 3-16 would not result in a cumulatively considerable impact related to hazardous materials.

Air Quality

Cumulative localized impacts could potentially occur if a project were to occur concurrently with another off-site project. Schedules for potential future projects near the project area are currently unknown; therefore, potential impacts associated with two or more simultaneous projects would be considered speculative.[14] However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all sites in the SCAQMD.

Therefore, the proposed project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be less than significant.

Biological Resources

Cumulative impacts to biological resources would occur where the construction or operation of the cumulative projects would encroach into areas containing sensitive biological resources, affect the movement of wildlife species, or affect the functionality of a planned conservation area. The project area includes developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation. The proposed project would have a less-than-significant impact upon biological resources with regulatory compliance, AMM-BIO-1 through AMM-BIO-7, and implementation of MM-BIO-1, MM-BIO-2, and MM-BIO-3 (as discussed in Section 3.4, Biological Resources). Therefore, development of the proposed project in combination with the related projects would not significantly impact wildlife corridors or habitat for any candidate, sensitive, or special-status species identified in local plans, policies, or regulations, or by CDFW or the USFWS. Thus, cumulative impacts to biological resources would be less than significant.

Cultural Resources

There are no impacts to historic resources from the proposed project because there are no historic resources within the project area. Impacts to archaeological resources and tribal cultural resources would be mitigated through the implementation of MM-CUL-1 and MM-CUL-2 (as discussed in Section 3.5, Cultural

[14] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145).

Resources). Potentially significant impacts related to the inadvertent unearthing of human remains would be avoided by compliance with California Health and Safety Code Section 7050.5, which 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 can occur until the County Coroner has examined the remains.

Cumulative impacts on cultural resources evaluate whether impacts of the proposed project and other related cumulative projects, when taken as a whole, substantially diminish the number of historical or archeological resources within the same or similar context or property type. The proposed project could have potentially significant impacts to unknown archaeological resources, and mitigation would be required to reduce adverse impacts to less than significant. It is anticipated that related projects would also be subject to the same requirements of CEQA as the proposed project, and would mitigate for impacts to cultural resources, as necessary. These determinations would be made on a case-by-case basis, and the effects of cumulative development on cultural resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Therefore, the proposed project's impacts to cultural resources would not be considered cumulatively considerable since the impacts are site specific, have been assessed and would be mitigated at a project- and site-specific level, and other cumulative projects in the area would be required to do the same.

Energy

The proposed project would result in cumulatively considerable impacts if the project, in conjunction with other projects in the area, would exceed the capacity of existing utilities. Future projects would be subject to CEQA and be required to follow energy standards, regulations, and plans for renewable energy, and implement energy efficiency considerations, where appropriate. Furthermore, it was determined that the proposed project would not result in wasteful, inefficient, or unnecessary consumption of electricity, natural gas, or petroleum, and the proposed project would follow existing, applicable energy standards and regulations.

Therefore, the proposed project would not result in a cumulatively considerable consumption of energy, and impacts would be less than significant.

Geology and Soils

The geographic extent considered for potential cumulative impacts to people and structures related to geologic and seismic hazards is more localized and site-specific than for many other environmental impacts. Impacts related to earthquakes and adverse soil conditions would be less than significant as a result of the required compliance with applicable building codes and geologic hazard regulations. Geologic/soil issues relate to local, site-specific soil conditions; ground response to earthquakes; and the potential for adverse soil conditions to damage the proposed project's structural components. Additionally, all projects built within the vicinity would

be required to comply with the California Building Code and regulations established by the State Water Resources Control Board that ensure that impacts to geology and soils are minimized to less than significant. With regard to potential cumulative impacts to paleontological resources, the proposed project could have potentially significant impacts to unknown paleontological resources, and mitigation would be required to reduce adverse impacts to less than significant. It is anticipated that related projects would also be subject to the same requirements of CEQA as the proposed project, and would mitigate for impacts to paleontological resources, as necessary. For these reasons, the proposed project's impacts with respect to geology and soils would not be cumulatively considerable.

Greenhouse Gas Emissions

To determine the proposed project's potential to generate GHG emissions that are cumulatively considerable, the proposed project's GHG emissions were compared to the non-industrial land use type quantitative threshold of 3,000 MT CO_2e per year. This impact analysis, therefore, compares the annual maintenance GHG emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year because the proposed project includes maintenance only, with no construction phase. Estimated annual project-generated maintenance emissions in 2018 (30.12 MT CO_2e) would be well below the recommended SCAQMD threshold of 3,000 MT CO_2e per year. Similarly, the annual maintenance emissions for 2020 and thereafter were estimated to be 18.09 MT CO_2e per year, also well below the threshold. As the estimated average annual maintenance emissions would not exceed the recommended SCAQMD threshold of 3,000 MT CO_2e, the proposed project would not result in cumulatively considerable GHG emissions.

Hazards and Hazardous Materials

Cumulative impacts related to hazards and hazardous materials could result from projects that combine to increase exposure to hazards and hazardous materials. The proposed project would have less-than-significant impacts related to hazardous materials with the incorporation of AMM-HAZ-1, AMM-HAZ-2 (as discussed in Section 3.9, Hazards and Hazardous Materials), and MM-HAZ-1. The proposed project would comply with all federal, state, and local regulations pertaining to the use, transport, and release of hazardous materials. The potential release of hazardous materials during proposed maintenance activities would be reduced in compliance with AMM-HAZ-1, AMM-HAZ-2, and MM-HAZ-1. Although cumulative projects have the potential to result in potentially significant impacts to hazards and hazardous materials, these projects would also be subject to federal, state, and local regulations that would reduce potential impacts to less than significant, including the application of mitigation measures, as necessary. Therefore, the proposed project, combined with the cumulative projects provided in Table 3-16 would not result in a cumulatively considerable impact related to hazardous materials.

Hydrology and Water Quality

The region of influence with respect to cumulative hydrology and water quality impacts is the Bull Creek watershed, and on a larger scale, the Los Angeles River watershed. With respect to hydrologic impacts, surface flow velocities would increase as a result of proposed project-related vegetation and sediment removal because the vegetation currently acts as a flow velocity inhibitor that allows more water to percolate into on-site soils. However, increased runoff would be offset by the increased capacity of the drainage facilities following sediment removal because greater capacity would accommodate the increased flow volumes and result in overall beneficial impacts. Other cumulative projects would potentially result in a reduction in pervious surfaces and an increase in unmitigated flow. However, each project would be evaluated with respect to CEQA, which requires an evaluation of potential increased runoff and incorporation of mitigation measures, where necessary, to reduce stormwater flow volumes and flow rates to conditions equal or less than existing conditions. As a result of compliance with CEQA and local ordinances pertaining to stormwater runoff, the proposed project would not contribute to cumulative drainage impacts, and hydrologic impacts would not be cumulatively considerable. Cumulative drainage related impacts would be **less than significant**, and no mitigation would be required.

With respect to cumulative water quality impacts, potential project-related, elevated total dissolved solids concentrations associated with erosion-induced sedimentation of downstream Bull Creek and the Los Angeles River would be minimized through implementation of AMM-BIO-4, Turbidity and Siltation (as discussed in Section 3.10, Hydrology and Water Quality). In addition, potential elevated chemical concentrations of downstream Bull Creek and the Los Angeles River would be minimized through implementation of AMM-BIO-5, Equipment and Access. Although the proposed project would be exempt from NPDES regulations, the State Water Resources Control Board would require dischargers whose cumulative projects disturb 1 acre or more of soil to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. In addition, each project would be evaluated with respect to CEQA, which requires an evaluation of potential water quality impacts and incorporation of mitigation measures, where necessary, to reduce water quality impacts to downstream waterways and associated beneficial uses. As a result of compliance with CEQA and local ordinances pertaining to stormwater quality, the proposed project would not contribute to cumulative water quality impacts, and water quality impacts would not be cumulatively considerable. Cumulative water quality related impacts would be less than significant, and no mitigation would be required.

Noise

In the category of noise, the proposed project would have the potential to significantly affect sensitive receptors in the project area. In the event that other projects involving the use of heavy equipment (such as construction projects) were to occur nearby, the noise from the proposed project could combine with noise from development projects in the area to produce a cumulative noise effect. However, noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity, and the identified related projects in Table 3-16 are located far enough from the project area that noise experienced by sensitive

uses adjacent to the project area would not hear construction noise from these projects. As such, the cumulative effects of noise are geographically limited. Furthermore, the maintenance-related effects of the proposed project were determined to be a level of less than significant, and the effects of the related projects would be temporary. Both the proposed project and any cumulative construction projects would be subject to applicable noise standards (see Section 3.13, Noise, for a description of the standards applicable in the City). As such, the maintenance activity noise associated with the proposed project would not be expected to combine with noise produced by related projects in the area to create a cumulatively considerable effect. For these reasons, the cumulative impacts of the proposed project would be less than significant.

Public Services

With regard to public services, cumulative impacts would occur if a project were to occur concurrently with other projects, resulting in the need for expanded public services. The proposed project would not involve the expansion of existing facilities or construction of new facilities that would attract new persons to the area requiring new public services. The workforce that would implement/perform proposed maintenance activities are existing LADWP workers. The proposed maintenance activities include vegetation management and sediment removal. The use of maintenance equipment around flammable vegetation could result in the need for fire suppression services. However, LADWP has procedures in place to minimize the risk of fire during maintenance activities. All proposed maintenance activities would occur in accordance with LADWP's procedures, as well as the California Fire Code. The proposed project would have no impact on police services, schools, parks, and other public facilities. For these reasons, the proposed project would have a less-than-significant cumulative impact on public services.

Transportation and Circulation

The proposed maintenance activities would result in daily trips that would range from four to 28 passenger-car equivalent (PCE) trips at each work area. There would be no AM peak-hour trips since all workers and haul trucks would arrive at each work area before the AM peak hours, starting at 7:00 a.m. For the PM peak-hour, trips from each work area would range between two and 14 PCE trips. The proposed project activities at each work area would not overlap because LADWP proposes to use the same in-house crew at each work area. Therefore, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin, separately. Proposed maintenance activities at those work areas would generate an approximate total of 28 PCE daily trips: zero PCE AM peak-hour trips, and 14 PCE PM peak-hour trips. Because so few peak-hour trips are generated by the proposed project, neither a Technical Memorandum or Traffic Impact Study would be required. Furthermore, traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the work area under maintenance. All proposed project activities would occur on the VNC site and would not require any (temporary) closures to public streets or otherwise impact the public streets system. Due to the relatively low and temporary traffic

volumes generated by the proposed project, it would not have a measurable impact on the adjacent street network, and therefore, would not have a cumulatively considerable impact when considered in combination with other projects in the area.

Tribal Cultural Resources

It is anticipated that related projects would also be subject to the same requirements of CEQA as the proposed project and would mitigate for impacts to tribal cultural resources, as necessary. These determinations would be made on a case-by-case basis, and the effects of cumulative development on tribal cultural resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. In addition, LADWP conducted consultation with two tribes. Because the proposed project activities could uncover tribal cultural resources, mitigation is included that requires coordination with the tribes. Therefore, the proposed project's impacts to tribal cultural resources would not be considered cumulatively considerable since the impacts are site specific, have been assessed and would be mitigated at a project- and site-specific level, and other cumulative projects in the area would be required to do the same.

Utilities and Service Systems

The proposed project would result in cumulatively considerable impacts if the project, in conjunction with other projects in the area, would exceed the capacity of existing utilities and service systems. However, the proposed project would not have an impact with regard to wastewater or water supplies. The proposed project would generate minimal amounts of waste, and it was determined that local landfills have 100 years of remaining life expectancy, as of 2013, which could adequately serve the proposed project and the reasonably foreseeable projects in the area. Additionally, the proposed project would increase the capacity of the VNC to collect and process stormwater, which would decrease the need for new stormwater facilities within the local watershed. For these reasons, the proposed project would not have a cumulatively considerable impact when considered in combination with other projects in the area.

Wildfire

The proposed project is not located within an area susceptible to high fire hazard dangers, thus no cumulative impact related to wildfire would occur.

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

Less-Than-Significant-Impact with Mitigation Incorporated. Based on the analysis in this Initial Study, for all resource topics, the proposed project would have no impact, less-than-significant impacts, or less-than-significant impacts with incorporation of mitigation measures. Therefore, substantial adverse impacts on human

beings would not occur as a result of the proposed project, and the impact would be less than significant with mitigation incorporated.

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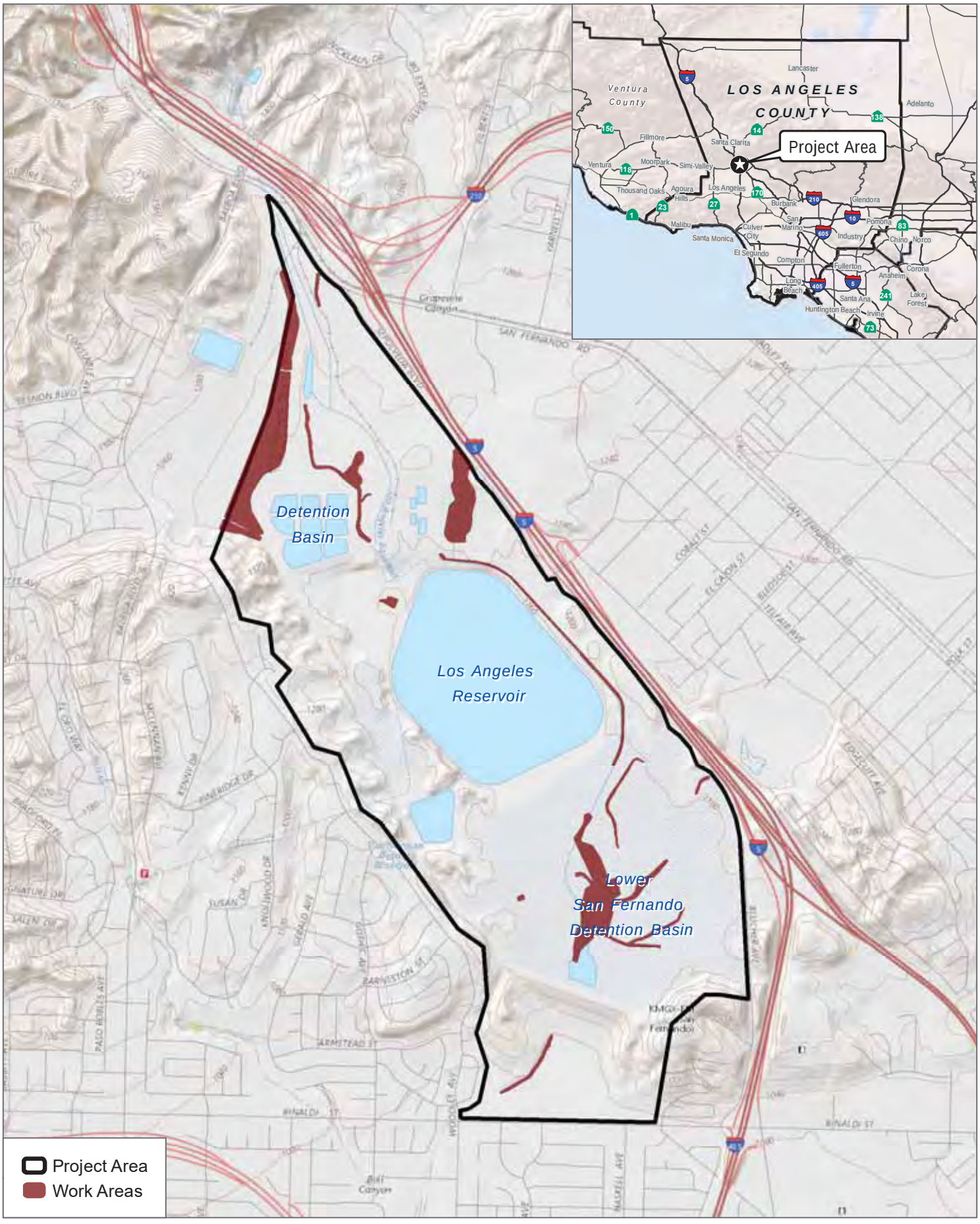

SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

Los Angeles Department of Water & Power

0 1,000 2,000 Feet

FIGURE 1

Regional Map

LADWP Van Norman Complex

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SOURCE: DigitalGlobe 201

LA DWP Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 2

Project Area

LADWP Van Norman Complex

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FIGURE 3A

Upper and Middle Debris Basins

LADWP Van Norman Complex

LA DWP Los Angeles Department of Water & Power

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FIGURE 3B

Bee Drainage Channel

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3C

San Fernando Gate Drain

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3D

Upper San Fernando Drain Line

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3E

Upper San Fernando Drain Line Feature 1

LADWP Van Norman Complex

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FIGURE 3F

Upper San Fernando Drain Line Feature 2

LADWP Van Norman Complex

LA DWP Los Angeles Department of Water & Power

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FIGURE 3G

Yarnell Debris Basin

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3H

LAR UV Plant Drainage and V-Ditch

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3I

San Fernando Creek

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3J

Lower San Fernando Detention Basin

LADWP Van Norman Complex

LA DWP Los Angeles Department of Water & Power

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FIGURE 3K

Bull Creek Extension Channel

LADWP Van Norman Complex

LA DWP Los Angeles Department of Water & Power

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FIGURE 3L

Upper Northeast Drainage

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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FIGURE 3M

LAR North Dike Stormwater Basin

LADWP Van Norman Complex

LA DWP Los Angeles Department of Water & Power

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FIGURE 3N

East Channel

LADWP Van Norman Complex

Los Angeles Department of Water & Power

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SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

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FIGURE 4

Biological Resources Study Area

LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic Map Prepared by: C. Lukos, GLA

LA DWP Los Angeles Department of Water & Power

FIGURE 5A
Jurisdictional Delineation – Project Area
LADWP Van Norman Complex

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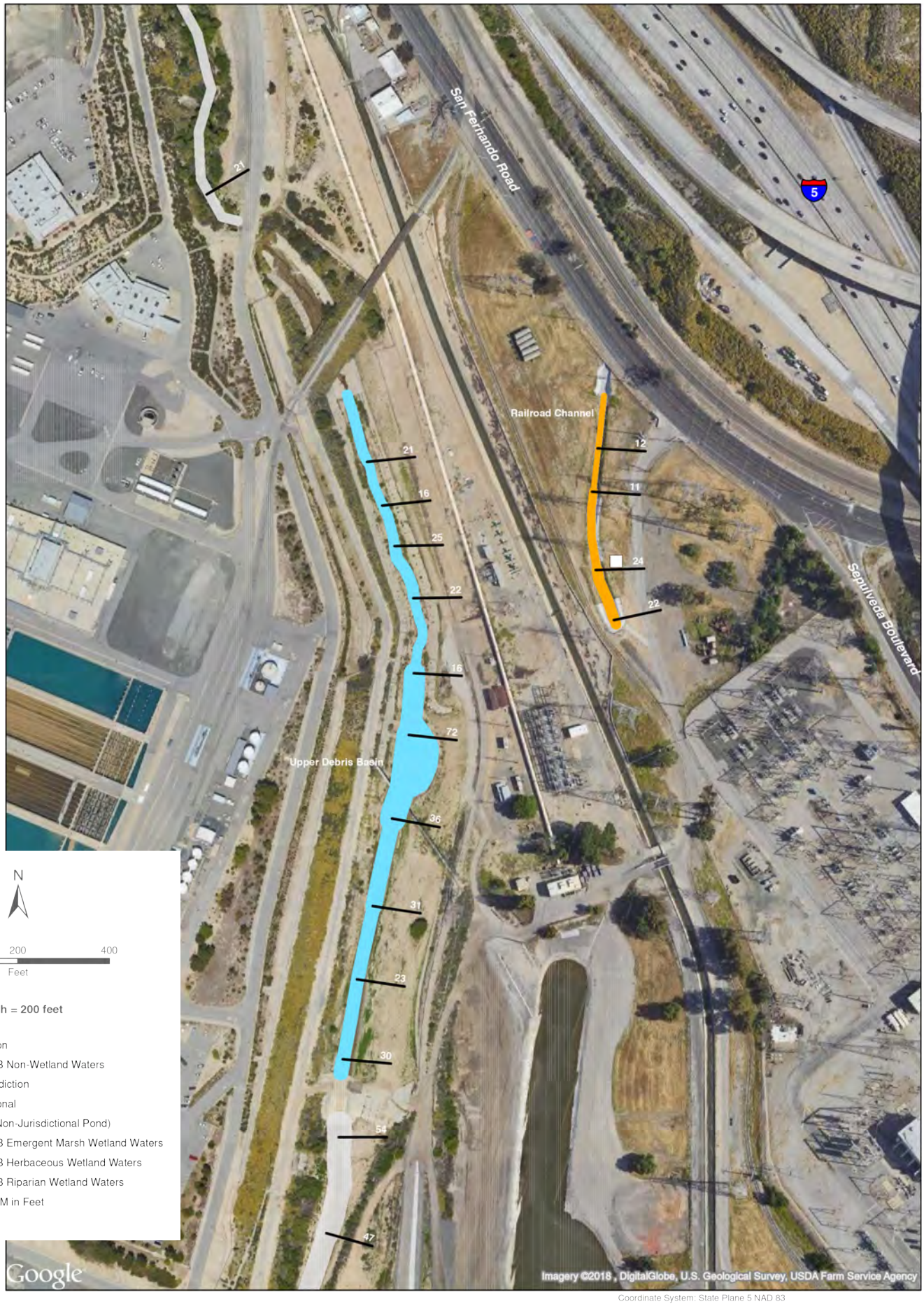

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

LA DWP Los Angeles Department of Water & Power

FIGURE 5B
Jurisdictional Delineation – Upper Debris Basin and Railroad Channel
LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

LA DWP Los Angeles Department of Water & Power

FIGURE 5C
Jurisdictional Delineation – Middle Debris Basin and Bee Drainage Channel
LADWP Van Norman Complex

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N

0 100 200 400

Feet

1 inch = 200 feet

- Soil Pit Location
- Corps/RWQCB Non-Wetland Waters
- Potential Jurisdiction
- Non-Jurisdictional
- Open Water (Non-Jurisdictional Pond)
- Corps/RWQCB Emergent Marsh Wetland Waters
- Corps/RWQCB Herbaceous Wetland Waters
- Corps/RWQCB Riparian Wetland Waters
- Width of OHWM in Feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

LA DWP Los Angeles Department of Water & Power

FIGURE 5D

Jurisdictional Delineation – Upper San Fernando Drain Line and Features 1 and 2

LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic Map Prepared by: C. Lukos, GLA
Datum: NAD83 Date Prepared: September 27, 2017

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FIGURE 5E
Jurisdictional Delineation – LAR North Dike Stormwater Basin
LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

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FIGURE 5F
Jurisdictional Delineation – Yarnell Debris Basin and Yarnell Drain Line
LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

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FIGURE 5G
Jurisdictional Delineation – East Channel and Tributaries
LADWP Van Norman Complex

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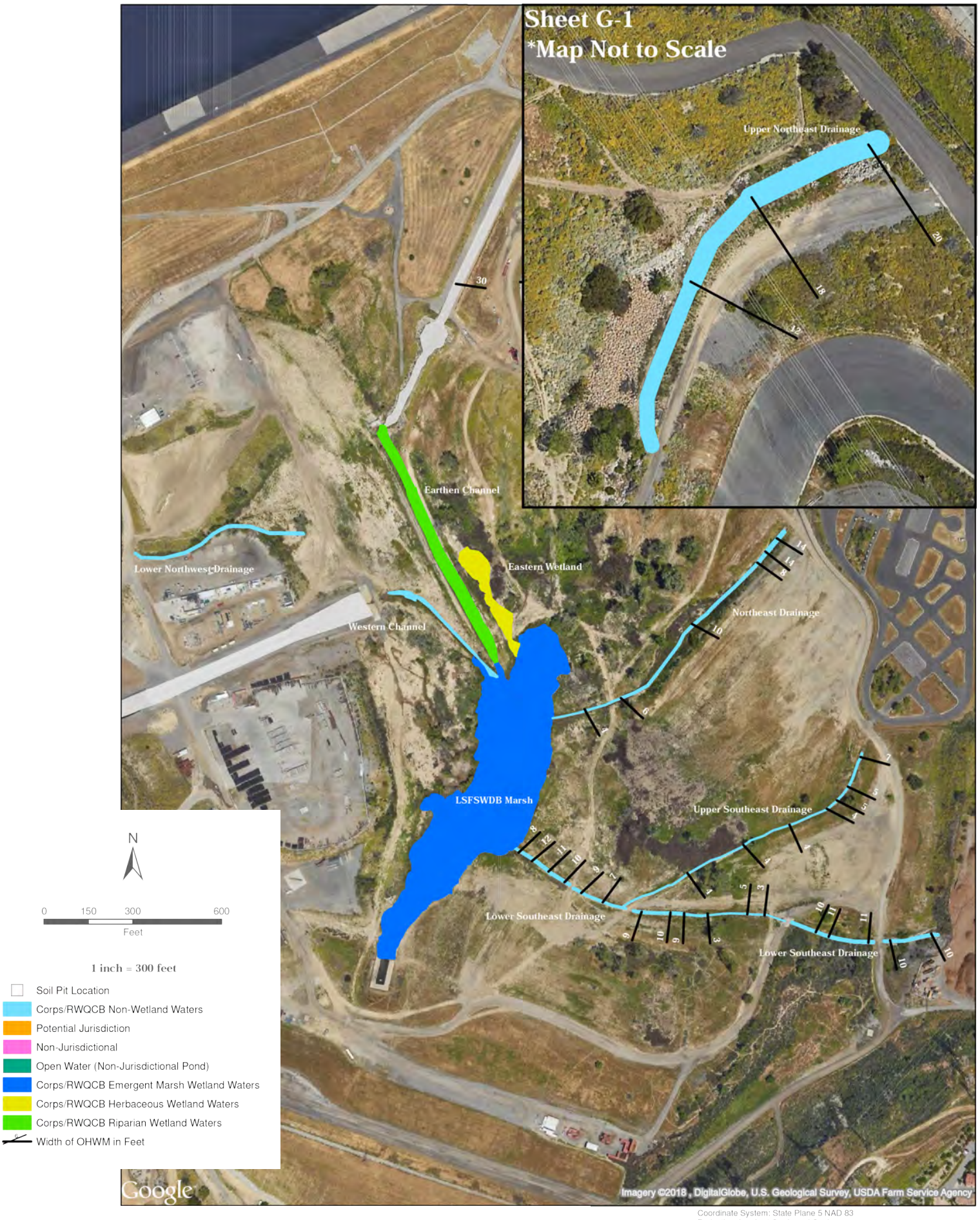

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C.Lukos, GLA
Date Prepared: September 27, 2017

LA DWP Los Angeles Department of Water & Power

FIGURE 5H

Jurisdictional Delineation – Lower San Fernando Detention Basin/ Upper Northeast Drainage LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

LA DWP Los Angeles Department of Water & Power

FIGURE 5I
Jurisdictional Delineation – Upper Northwest Drainage
LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic Map Prepared by: C. Lukos, GLA

Los Angeles Department of Water & Power

FIGURE 5J
Jurisdictional Delineation – LAR UV Plant Drainage & V-Ditch
LADWP Van Norman Complex

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Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83

Map Prepared by: C. Lukos, GLA
Date Prepared: September 27, 2017

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FIGURE 5K
Jurisdictional Delineation – San Fernando Creek
LADWP Van Norman Complex

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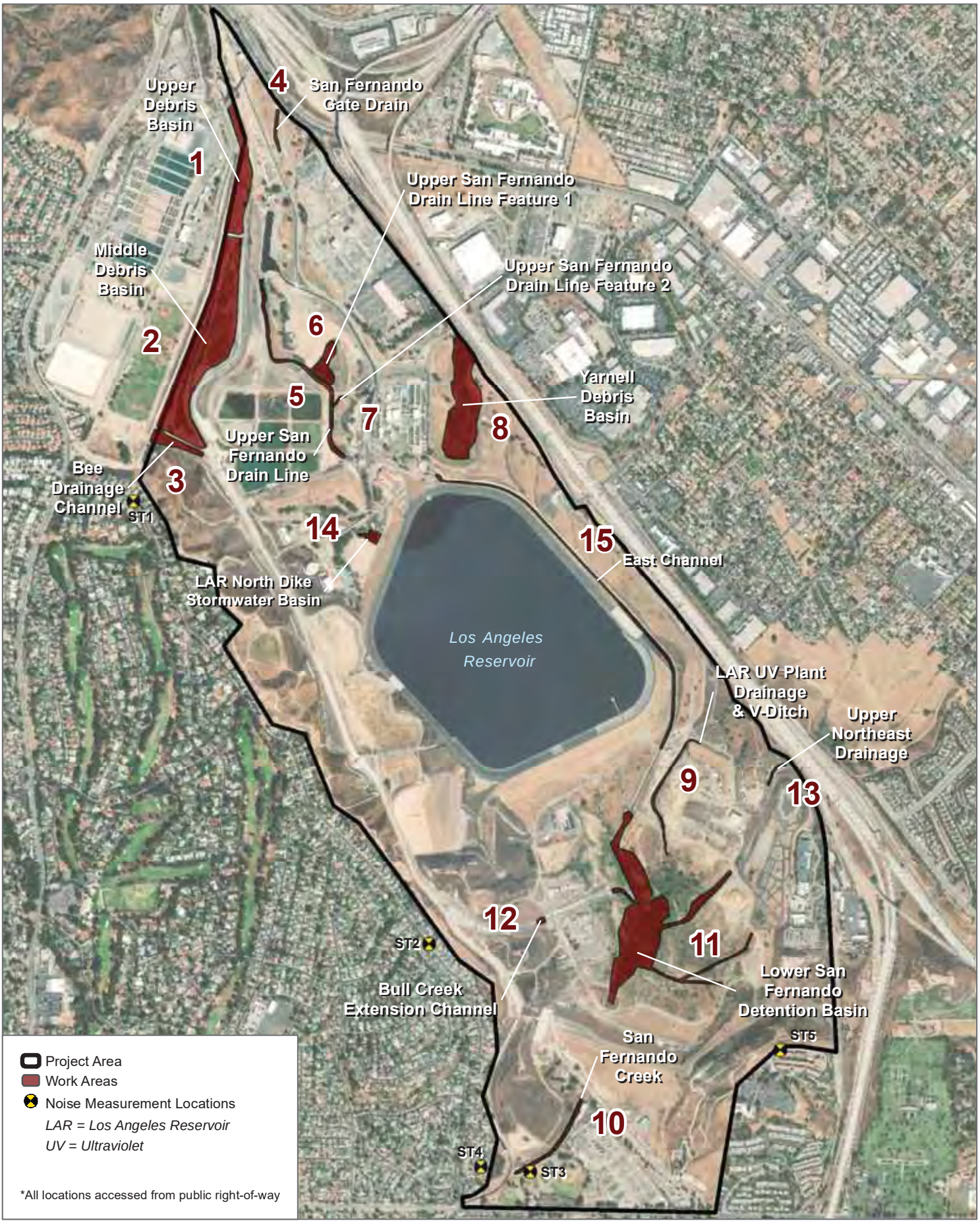

SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 6

Noise Measurement Locations

LADWP Van Norman Complex

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APPENDIX A

Air Quality and Greenhouse Gas Calculations

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

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Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

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tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

tblTripsAndVMT	HaulingTripNumber	55.00	2.00
tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0197	0.2094	0.1558	3.3000e-004	0.6832	9.2900e-003	0.6924	0.0686	8.5400e-003	0.0772	0.0000	29.9063	29.9063	8.5400e-003	0.0000	30.1198
Maximum	**0.0197**	**0.2094**	**0.1558**	**3.3000e-004**	**0.6832**	**9.2900e-003**	**0.6924**	**0.0686**	**8.5400e-003**	**0.0772**	**0.0000**	**29.9063**	**29.9063**	**8.5400e-003**	**0.0000**	**30.1198**

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					
2019	0.0197	0.2094	0.1558	3.3000e-004	0.4191	9.2900e-003	0.4284	0.0422	8.5400e-003	0.0508	0.0000	29.9063	29.9063	8.5400e-003	0.0000	30.1197
Maximum	**0.0197**	**0.2094**	**0.1558**	**3.3000e-004**	**0.4191**	**9.2900e-003**	**0.4284**	**0.0422**	**8.5400e-003**	**0.0508**	**0.0000**	**29.9063**	**29.9063**	**8.5400e-003**	**0.0000**	**30.1197**

	ROG	NOx	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**	**38.65**	**0.00**	**38.13**	**38.50**	**0.00**	**34.24**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	7-23-2019	9-30-2019	0.0884	0.0884
		Highest	0.0884	0.0884

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

	ROG	NOx	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40
East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

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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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

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					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0369	0.0272	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.8902	4.8902	1.5500e-003	0.0000	4.9289
Total	**3.3500e-003**	**0.0369**	**0.0272**	**5.0000e-005**	**1.3000e-004**	**1.6800e-003**	**1.8100e-003**	**2.0000e-005**	**1.5400e-003**	**1.5600e-003**	**0.0000**	**4.8902**	**4.8902**	**1.5500e-003**	**0.0000**	**4.9289**

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	8.0000e-004	1.4000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	1.9000e-004	1.5000e-004	1.6700e-003	0.0000	0.1405	0.0000	0.1405	0.0141	0.0000	0.0141	0.0000	0.4077	0.4077	1.0000e-005	0.0000	0.4080
Total	**2.1000e-004**	**9.5000e-004**	**1.8100e-003**	**0.0000**	**0.1546**	**0.0000**	**0.1546**	**0.0155**	**0.0000**	**0.0155**	**0.0000**	**0.5809**	**0.5809**	**2.0000e-005**	**0.0000**	**0.5816**

3.2 Upper Debris Basin - 2019

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					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0369	0.0272	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.8902	4.8902	1.5500e-003	0.0000	4.9289
Total	**3.3500e-003**	**0.0369**	**0.0272**	**5.0000e-005**	**6.0000e-005**	**1.6800e-003**	**1.7400e-003**	**1.0000e-005**	**1.5400e-003**	**1.5500e-003**	**0.0000**	**4.8902**	**4.8902**	**1.5500e-003**	**0.0000**	**4.9289**

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	8.0000e-004	1.4000e-004	0.0000	8.6000e-003	0.0000	8.6000e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	1.9000e-004	1.5000e-004	1.6700e-003	0.0000	0.0862	0.0000	0.0862	8.6500e-003	0.0000	8.6500e-003	0.0000	0.4077	0.4077	1.0000e-005	0.0000	0.4080
Total	**2.1000e-004**	**9.5000e-004**	**1.8100e-003**	**0.0000**	**0.0948**	**0.0000**	**0.0948**	**9.5100e-003**	**0.0000**	**9.5100e-003**	**0.0000**	**0.5809**	**0.5809**	**2.0000e-005**	**0.0000**	**0.5816**

3.3 Middle Debris Basin - 2019

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					4.7000e-004	0.0000	4.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6800e-003	0.0517	0.0380	8.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	6.8463	6.8463	2.1700e-003	0.0000	6.9004
Total	**4.6800e-003**	**0.0517**	**0.0380**	**8.0000e-005**	**4.7000e-004**	**2.3500e-003**	**2.8200e-003**	**7.0000e-005**	**2.1600e-003**	**2.2300e-003**	**0.0000**	**6.8463**	**6.8463**	**2.1700e-003**	**0.0000**	**6.9004**

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	8.0000e-004	1.4000e-004	0.0000	0.0111	0.0000	0.0111	1.1100e-003	0.0000	1.1100e-003	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	2.7000e-004	2.1000e-004	2.3300e-003	1.0000e-005	0.1557	0.0000	0.1558	0.0156	0.0000	0.0156	0.0000	0.5708	0.5708	2.0000e-005	0.0000	0.5713
Total	**2.9000e-004**	**1.0100e-003**	**2.4700e-003**	**1.0000e-005**	**0.1668**	**0.0000**	**0.1668**	**0.0167**	**0.0000**	**0.0168**	**0.0000**	**0.7439**	**0.7439**	**3.0000e-005**	**0.0000**	**0.7448**

3.3 Middle Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6800e-003	0.0517	0.0380	8.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	6.8463	6.8463	2.1700e-003	0.0000	6.9004
Total	**4.6800e-003**	**0.0517**	**0.0380**	**8.0000e-005**	**2.1000e-004**	**2.3500e-003**	**2.5600e-003**	**3.0000e-005**	**2.1600e-003**	**2.1900e-003**	**0.0000**	**6.8463**	**6.8463**	**2.1700e-003**	**0.0000**	**6.9004**

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	8.0000e-004	1.4000e-004	0.0000	6.7900e-003	0.0000	6.7900e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	2.7000e-004	2.1000e-004	2.3300e-003	1.0000e-005	0.0956	0.0000	0.0956	9.6100e-003	0.0000	9.6200e-003	0.0000	0.5708	0.5708	2.0000e-005	0.0000	0.5713
Total	**2.9000e-004**	**1.0100e-003**	**2.4700e-003**	**1.0000e-005**	**0.1024**	**0.0000**	**0.1024**	**0.0103**	**0.0000**	**0.0103**	**0.0000**	**0.7439**	**0.7439**	**3.0000e-005**	**0.0000**	**0.7448**

3.4 Bee Drainage Channel - 2019

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	5.3700e-003	2.9900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.6303	0.6303	2.0000e-004	0.0000	0.6353
Total	**4.7000e-004**	**5.3700e-003**	**2.9900e-003**	**1.0000e-005**	**2.0000e-005**	**2.4000e-004**	**2.6000e-004**	**0.0000**	**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.6303**	**0.6303**	**2.0000e-004**	**0.0000**	**0.6353**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	2.7700e-003	0.0000	2.7700e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0223	0.0000	0.0223	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**0.0250**	**0.0000**	**0.0250**	**2.5100e-003**	**0.0000**	**2.5100e-003**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.4 Bee Drainage Channel - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	5.3700e-003	2.9900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.6303	0.6303	2.0000e-004	0.0000	0.6353
Total	**4.7000e-004**	**5.3700e-003**	**2.9900e-003**	**1.0000e-005**	**1.0000e-005**	**2.4000e-004**	**2.5000e-004**	**0.0000**	**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.6303**	**0.6303**	**2.0000e-004**	**0.0000**	**0.6353**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.7000e-003	0.0000	1.7000e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0137	0.0000	0.0137	1.3700e-003	0.0000	1.3700e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**0.0154**	**0.0000**	**0.0154**	**1.5400e-003**	**0.0000**	**1.5400e-003**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.5 San Fernando Gate Drainage Feature - 2019

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					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.6300e-003	3.7100e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.7688	0.7688	2.4000e-004	0.0000	0.7749
Total	**4.9000e-004**	**5.6300e-003**	**3.7100e-003**	**1.0000e-005**	**4.0000e-005**	**2.2000e-004**	**2.6000e-004**	**1.0000e-005**	**2.0000e-004**	**2.1000e-004**	**0.0000**	**0.7688**	**0.7688**	**2.4000e-004**	**0.0000**	**0.7749**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	7.7400e-003	0.0000	7.7400e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0310	0.0000	0.0310	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**4.3000e-004**	**4.0000e-004**	**0.0000**	**0.0387**	**0.0000**	**0.0387**	**3.8800e-003**	**0.0000**	**3.8800e-003**	**0.0000**	**0.1681**	**0.1681**	**1.0000e-005**	**0.0000**	**0.1684**

3.5 San Fernando Gate Drainage Feature - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.6300e-003	3.7100e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.7688	0.7688	2.4000e-004	0.0000	0.7749
Total	**4.9000e-004**	**5.6300e-003**	**3.7100e-003**	**1.0000e-005**	**2.0000e-005**	**2.2000e-004**	**2.4000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.7688**	**0.7688**	**2.4000e-004**	**0.0000**	**0.7749**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	4.7500e-003	0.0000	4.7500e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0190	0.0000	0.0190	1.9000e-003	0.0000	1.9000e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**4.3000e-004**	**4.0000e-004**	**0.0000**	**0.0237**	**0.0000**	**0.0237**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.1681**	**0.1681**	**1.0000e-005**	**0.0000**	**0.1684**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2400e-003	0.0141	9.2700e-003	2.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	1.9220	1.9220	6.1000e-004	0.0000	1.9372
Total	**1.2400e-003**	**0.0141**	**9.2700e-003**	**2.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.9220**	**1.9220**	**6.1000e-004**	**0.0000**	**1.9372**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	2.9600e-003	0.0000	2.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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-004	8.0000e-005	8.3000e-004	0.0000	0.0592	0.0000	0.0592	5.9400e-003	0.0000	5.9400e-003	0.0000	0.2039	0.2039	1.0000e-005	0.0000	0.2040
Total	**1.1000e-004**	**2.8000e-004**	**8.7000e-004**	**0.0000**	**0.0621**	**0.0000**	**0.0622**	**6.2400e-003**	**0.0000**	**6.2400e-003**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2400e-003	0.0141	9.2700e-003	2.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	1.9220	1.9220	6.1000e-004	0.0000	1.9372
Total	**1.2400e-003**	**0.0141**	**9.2700e-003**	**2.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.9220**	**1.9220**	**6.1000e-004**	**0.0000**	**1.9372**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.8100e-003	0.0000	1.8100e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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-004	8.0000e-005	8.3000e-004	0.0000	0.0363	0.0000	0.0363	3.6500e-003	0.0000	3.6500e-003	0.0000	0.2039	0.2039	1.0000e-005	0.0000	0.2040
Total	**1.1000e-004**	**2.8000e-004**	**8.7000e-004**	**0.0000**	**0.0381**	**0.0000**	**0.0381**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0137	0.0107	2.0000e-005		6.8000e-004	6.8000e-004		6.2000e-004	6.2000e-004	0.0000	1.7809	1.7809	5.6000e-004	0.0000	1.7950
Total	**1.2700e-003**	**0.0137**	**0.0107**	**2.0000e-005**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.7809**	**1.7809**	**5.6000e-004**	**0.0000**	**1.7950**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	6.4800e-003	0.0000	6.4800e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	5.0000e-005	5.0000e-004	0.0000	0.0388	0.0000	0.0388	3.8900e-003	0.0000	3.9000e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**4.5000e-004**	**5.7000e-004**	**0.0000**	**0.0453**	**0.0000**	**0.0453**	**4.5400e-003**	**0.0000**	**4.5500e-003**	**0.0000**	**0.2089**	**0.2089**	**1.0000e-005**	**0.0000**	**0.2092**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0137	0.0107	2.0000e-005		6.8000e-004	6.8000e-004		6.2000e-004	6.2000e-004	0.0000	1.7809	1.7809	5.6000e-004	0.0000	1.7950
Total	**1.2700e-003**	**0.0137**	**0.0107**	**2.0000e-005**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.7809**	**1.7809**	**5.6000e-004**	**0.0000**	**1.7950**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.9700e-003	0.0000	3.9700e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	5.0000e-005	5.0000e-004	0.0000	0.0238	0.0000	0.0238	2.3900e-003	0.0000	2.3900e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**4.5000e-004**	**5.7000e-004**	**0.0000**	**0.0278**	**0.0000**	**0.0278**	**2.7900e-003**	**0.0000**	**2.7900e-003**	**0.0000**	**0.2089**	**0.2089**	**1.0000e-005**	**0.0000**	**0.2092**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	3.1700e-003	0.0000	3.1700e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	6.3500e-003	0.0000	6.3500e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**2.0000e-005**	**2.1000e-004**	**1.2000e-004**	**0.0000**	**9.5200e-003**	**0.0000**	**9.5200e-003**	**9.6000e-004**	**0.0000**	**9.6000e-004**	**0.0000**	**0.0637**	**0.0637**	**0.0000**	**0.0000**	**0.0638**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.9400e-003	0.0000	1.9500e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	3.9000e-003	0.0000	3.9000e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**2.0000e-005**	**2.1000e-004**	**1.2000e-004**	**0.0000**	**5.8400e-003**	**0.0000**	**5.8500e-003**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**0.0637**	**0.0637**	**0.0000**	**0.0000**	**0.0638**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.7100e-003	0.0000	6.7100e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.7100e-003**	**0.0000**	**6.7100e-003**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	4.1200e-003	0.0000	4.1200e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**4.1200e-003**	**0.0000**	**4.1200e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	8.1000e-004	0.0000	8.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**8.1000e-004**	**0.0000**	**8.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.1000e-004	0.0000	5.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**5.1000e-004**	**0.0000**	**5.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3400e-003	0.0258	0.0190	4.0000e-005		1.1700e-003	1.1700e-003		1.0800e-003	1.0800e-003	0.0000	3.4231	3.4231	1.0800e-003	0.0000	3.4502
Total	**2.3400e-003**	**0.0258**	**0.0190**	**4.0000e-005**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**0.0000**	**3.4231**	**3.4231**	**1.0800e-003**	**0.0000**	**3.4502**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.5200e-003	0.0000	3.5200e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0491	0.0000	0.0491	4.9400e-003	0.0000	4.9500e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0526**	**0.0000**	**0.0526**	**5.2900e-003**	**0.0000**	**5.3000e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3400e-003	0.0258	0.0190	4.0000e-005		1.1700e-003	1.1700e-003		1.0800e-003	1.0800e-003	0.0000	3.4231	3.4231	1.0800e-003	0.0000	3.4502
Total	**2.3400e-003**	**0.0258**	**0.0190**	**4.0000e-005**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**0.0000**	**3.4231**	**3.4231**	**1.0800e-003**	**0.0000**	**3.4502**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	2.1600e-003	0.0000	2.1600e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0302	0.0000	0.0302	3.0500e-003	0.0000	3.0500e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0323**	**0.0000**	**0.0323**	**3.2700e-003**	**0.0000**	**3.2700e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	0.0105	0.0104	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	1.2555	1.2555	4.0000e-004	0.0000	1.2654
Total	**1.0500e-003**	**0.0105**	**0.0104**	**1.0000e-005**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**1.2555**	**1.2555**	**4.0000e-004**	**0.0000**	**1.2654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0163	0.0000	0.0163	1.6500e-003	0.0000	1.6500e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**6.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**0.0163**	**0.0000**	**0.0163**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**0.0000**	**0.1223**	**0.1223**	**0.0000**	**0.0000**	**0.1224**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	0.0105	0.0104	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	1.2555	1.2555	4.0000e-004	0.0000	1.2654
Total	**1.0500e-003**	**0.0105**	**0.0104**	**1.0000e-005**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**1.2555**	**1.2555**	**4.0000e-004**	**0.0000**	**1.2654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0100	0.0000	0.0100	1.0200e-003	0.0000	1.0200e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**6.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**0.0100**	**0.0000**	**0.0100**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**0.0000**	**0.1223**	**0.1223**	**0.0000**	**0.0000**	**0.1224**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	8.1300e-003	2.9800e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.8097	0.8097	2.6000e-004	0.0000	0.8161
Total	**6.8000e-004**	**8.1300e-003**	**2.9800e-003**	**1.0000e-005**	**1.0000e-005**	**3.1000e-004**	**3.2000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.8097**	**0.8097**	**2.6000e-004**	**0.0000**	**0.8161**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	9.5000e-004	0.0000	9.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	7.6900e-003	0.0000	7.6900e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**8.6400e-003**	**0.0000**	**8.6400e-003**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	8.1200e-003	2.9800e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.8097	0.8097	2.6000e-004	0.0000	0.8161
Total	**6.8000e-004**	**8.1200e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.8097**	**0.8097**	**2.6000e-004**	**0.0000**	**0.8161**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	5.9000e-004	0.0000	5.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	4.7400e-003	0.0000	4.7400e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**5.3300e-003**	**0.0000**	**5.3300e-003**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	1.8100e-003	6.3000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.2105	0.2105	7.0000e-005	0.0000	0.2122
Total	**1.5000e-004**	**1.8100e-003**	**6.3000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.2105**	**0.2105**	**7.0000e-005**	**0.0000**	**0.2122**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0408	0.0408	0.0000	0.0000	0.0408
Total	**3.0000e-005**	**2.2000e-004**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0841**	**0.0841**	**0.0000**	**0.0000**	**0.0842**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	1.8100e-003	6.3000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.2105	0.2105	7.0000e-005	0.0000	0.2122
Total	**1.5000e-004**	**1.8100e-003**	**6.3000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.2105**	**0.2105**	**7.0000e-005**	**0.0000**	**0.2122**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0408	0.0408	0.0000	0.0000	0.0408
Total	**3.0000e-005**	**2.2000e-004**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0841**	**0.0841**	**0.0000**	**0.0000**	**0.0842**

3.15 LAR North Dike Stormwater Basin - 2019

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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7300e-003	0.0197	0.0130	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.6908	2.6908	8.5000e-004	0.0000	2.7121
Total	**1.7300e-003**	**0.0197**	**0.0130**	**3.0000e-005**	**7.0000e-005**	**7.6000e-004**	**8.3000e-004**	**1.0000e-005**	**7.0000e-004**	**7.1000e-004**	**0.0000**	**2.6908**	**2.6908**	**8.5000e-004**	**0.0000**	**2.7121**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	5.7500e-003	0.0000	5.7500e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0806	0.0000	0.0806	8.0900e-003	0.0000	8.0900e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0864**	**0.0000**	**0.0864**	**8.6700e-003**	**0.0000**	**8.6700e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.15 LAR North Dike Stormwater Basin - 2019

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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7300e-003	0.0197	0.0130	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.6908	2.6908	8.5000e-004	0.0000	2.7121
Total	**1.7300e-003**	**0.0197**	**0.0130**	**3.0000e-005**	**3.0000e-005**	**7.6000e-004**	**7.9000e-004**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**2.6908**	**2.6908**	**8.5000e-004**	**0.0000**	**2.7121**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.5300e-003	0.0000	3.5300e-003	3.5000e-004	0.0000	3.6000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0495	0.0000	0.0495	4.9800e-003	0.0000	4.9800e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0530**	**0.0000**	**0.0530**	**5.3300e-003**	**0.0000**	**5.3400e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	8.0600e-003	4.4800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.9454	0.9454	3.0000e-004	0.0000	0.9529
Total	**7.1000e-004**	**8.0600e-003**	**4.4800e-003**	**1.0000e-005**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**3.3000e-004**	**3.3000e-004**	**0.0000**	**0.9454**	**0.9454**	**3.0000e-004**	**0.0000**	**0.9529**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	6.8000e-004	0.0000	6.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	5.0000e-005	5.0000e-004	0.0000	8.2000e-003	0.0000	8.2100e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**2.5000e-004**	**5.4000e-004**	**0.0000**	**8.8800e-003**	**0.0000**	**8.8900e-003**	**9.1000e-004**	**0.0000**	**9.1000e-004**	**0.0000**	**0.1656**	**0.1656**	**0.0000**	**0.0000**	**0.1658**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	8.0600e-003	4.4800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.9454	0.9454	3.0000e-004	0.0000	0.9529
Total	**7.1000e-004**	**8.0600e-003**	**4.4800e-003**	**1.0000e-005**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**3.3000e-004**	**3.3000e-004**	**0.0000**	**0.9454**	**0.9454**	**3.0000e-004**	**0.0000**	**0.9529**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	4.2000e-004	0.0000	4.2000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	5.0000e-005	5.0000e-004	0.0000	5.0700e-003	0.0000	5.0700e-003	5.3000e-004	0.0000	5.3000e-004	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**2.5000e-004**	**5.4000e-004**	**0.0000**	**5.4900e-003**	**0.0000**	**5.4900e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.1656**	**0.1656**	**0.0000**	**0.0000**	**0.1658**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

tblTripsAndVMT	HaulingTripNumber	55.00	2.00
tblTripsAndVMT	HaulingTripNumber	79.00	4.00
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tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.8898	9.4262	7.5651	0.0148	42.3198	0.4539	42.5400	4.2399	0.4176	4.4426	0.0000	1,467.7197	1,467.7197	0.4222	0.0000	1,478.2756
Maximum	**0.8898**	**9.4262**	**7.5651**	**0.0148**	**42.3198**	**0.4539**	**42.5400**	**4.2399**	**0.4176**	**4.4426**	**0.0000**	**1,467.7197**	**1,467.7197**	**0.4222**	**0.0000**	**1,478.2756**

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					
2019	0.8898	9.4262	7.5651	0.0148	25.9385	0.4539	26.1587	2.6008	0.4176	2.8034	0.0000	1,467.7197	1,467.7197	0.4222	0.0000	1,478.2756
Maximum	**0.8898**	**9.4262**	**7.5651**	**0.0148**	**25.9385**	**0.4539**	**26.1587**	**2.6008**	**0.4176**	**2.8034**	**0.0000**	**1,467.7197**	**1,467.7197**	**0.4222**	**0.0000**	**1,478.2756**

	ROG	NOx	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**	**38.71**	**0.00**	**38.51**	**38.66**	**0.00**	**36.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	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	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0259	0.0000	0.0259	3.9300e-003	0.0000	3.9300e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0259**	**0.3354**	**0.3613**	**3.9300e-003**	**0.3086**	**0.3125**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0500e-003	0.1570	0.0271	3.6000e-004	3.0667	4.6000e-004	3.0672	0.3070	4.4000e-004	0.3075		38.6877	38.6877	3.1200e-003		38.7657
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	0.0392	0.0273	0.3595	9.5000e-004	30.7089	7.0000e-004	30.7096	3.0772	6.4000e-004	3.0778		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0432**	**0.1843**	**0.3865**	**1.3100e-003**	**33.7757**	**1.1600e-003**	**33.7768**	**3.3842**	**1.0800e-003**	**3.3853**		**133.1668**	**133.1668**	**6.0700e-003**		**133.3187**

3.2 Upper Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0117**	**0.3354**	**0.3471**	**1.7700e-003**	**0.3086**	**0.3103**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0500e-003	0.1570	0.0271	3.6000e-004	1.8798	4.6000e-004	1.8802	0.1884	4.4000e-004	0.1888		38.6877	38.6877	3.1200e-003		38.7657
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	0.0392	0.0273	0.3595	9.5000e-004	18.8309	7.0000e-004	18.8315	1.8893	6.4000e-004	1.8900		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0432**	**0.1843**	**0.3865**	**1.3100e-003**	**20.7106**	**1.1600e-003**	**20.7118**	**2.0777**	**1.0800e-003**	**2.0788**		**133.1668**	**133.1668**	**6.0700e-003**		**133.3187**

3.3 Middle Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0669	0.0000	0.0669	0.0101	0.0000	0.0101			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0669**	**0.3354**	**0.4023**	**0.0101**	**0.3086**	**0.3187**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.7282	3.3000e-004	1.7285	0.1732	3.1000e-004	0.1735		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**26.0364**	**1.0300e-003**	**26.0375**	**2.6121**	**9.5000e-004**	**2.6130**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.3 Middle Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0301**	**0.3354**	**0.3655**	**4.5600e-003**	**0.3086**	**0.3131**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.0597	3.3000e-004	1.0601	0.1064	3.1000e-004	0.1067		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**15.9729**	**1.0300e-003**	**15.9739**	**1.6057**	**9.5000e-004**	**1.6067**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.4 Bee Drainage Channel - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0248**	**0.2384**	**0.2632**	**3.7600e-003**	**0.2193**	**0.2231**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	3.0243	5.7000e-004	3.0249	0.3031	5.5000e-004	0.3037		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**27.3326**	**1.2700e-003**	**27.3339**	**2.7420**	**1.1900e-003**	**2.7432**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.4 Bee Drainage Channel - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0112**	**0.2384**	**0.2496**	**1.6900e-003**	**0.2193**	**0.2210**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	1.8545	5.7000e-004	1.8551	0.1861	5.5000e-004	0.1867		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**16.7677**	**1.2700e-003**	**16.7689**	**1.6855**	**1.1900e-003**	**1.6867**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.5 San Fernando Gate Drainage Feature - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0359**	**0.2184**	**0.2542**	**5.4300e-003**	**0.2009**	**0.2063**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0101	0.3925	0.0677	9.0000e-004	8.4611	1.1400e-003	8.4623	0.8468	1.0900e-003	0.8479		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	33.8228	7.0000e-004	33.8235	3.3877	6.4000e-004	3.3883		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**42.2839**	**1.8400e-003**	**42.2858**	**4.2345**	**1.7300e-003**	**4.2362**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.5 San Fernando Gate Drainage Feature - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0161**	**0.2184**	**0.2345**	**2.4400e-003**	**0.2009**	**0.2033**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0101	0.3925	0.0677	9.0000e-004	5.1856	1.1400e-003	5.1868	0.5193	1.0900e-003	0.5204		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	20.7368	7.0000e-004	20.7375	2.0791	6.4000e-004	2.0797		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**25.9224**	**1.8400e-003**	**25.9242**	**2.5983**	**1.7300e-003**	**2.6001**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.6 Upper San Fernando Drain Line - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.0300e-003	0.0785	0.0135	1.8000e-004	1.2921	2.3000e-004	1.2923	0.1295	2.2000e-004	0.1297		19.3438	19.3438	1.5600e-003		19.3829
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	0.0392	0.0273	0.3595	9.5000e-004	25.8652	7.0000e-004	25.8659	2.5941	6.4000e-004	2.5948		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0412**	**0.1058**	**0.3730**	**1.1300e-003**	**27.1573**	**9.3000e-004**	**27.1582**	**2.7236**	**8.6000e-004**	**2.7244**		**113.8229**	**113.8229**	**4.5100e-003**		**113.9358**

3.6 Upper San Fernando Drain Line - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.0300e-003	0.0785	0.0135	1.8000e-004	0.7922	2.3000e-004	0.7925	0.0795	2.2000e-004	0.0797		19.3438	19.3438	1.5600e-003		19.3829
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	0.0392	0.0273	0.3595	9.5000e-004	15.8661	7.0000e-004	15.8668	1.5942	6.4000e-004	1.5949		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0412**	**0.1058**	**0.3730**	**1.1300e-003**	**16.6583**	**9.3000e-004**	**16.6593**	**1.6737**	**8.6000e-004**	**1.6745**		**113.8229**	**113.8229**	**4.5100e-003**		**113.9358**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162		1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**		**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	6.7600e-003	0.2617	0.0451	6.0000e-004	4.7189	7.6000e-004	4.7197	0.4726	7.3000e-004	0.4733		64.4794	64.4794	5.2000e-003		64.6095
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	0.0392	0.0273	0.3595	9.5000e-004	28.2871	7.0000e-004	28.2878	2.8356	6.4000e-004	2.8363		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0459**	**0.2889**	**0.4046**	**1.5500e-003**	**33.0060**	**1.4600e-003**	**33.0074**	**3.3083**	**1.3700e-003**	**3.3096**		**158.9585**	**158.9585**	**8.1500e-003**		**159.1625**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162	0.0000	1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**	**0.0000**	**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	6.7600e-003	0.2617	0.0451	6.0000e-004	2.8929	7.6000e-004	2.8936	0.2900	7.3000e-004	0.2907		64.4794	64.4794	5.2000e-003		64.6095
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	0.0392	0.0273	0.3595	9.5000e-004	17.3485	7.0000e-004	17.3492	1.7418	6.4000e-004	1.7424		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0459**	**0.2889**	**0.4046**	**1.5500e-003**	**20.2413**	**1.4600e-003**	**20.2428**	**2.0318**	**1.3700e-003**	**2.0332**		**158.9585**	**158.9585**	**8.1500e-003**		**159.1625**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0101	0.3925	0.0677	9.0000e-004	6.9313	1.1400e-003	6.9324	0.6943	1.0900e-003	0.6954		96.7191	96.7191	7.8100e-003		96.9143
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	0.0196	0.0136	0.1797	4.7000e-004	13.8840	3.5000e-004	13.8844	1.3919	3.2000e-004	1.3923		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0297**	**0.4062**	**0.2474**	**1.3700e-003**	**20.8153**	**1.4900e-003**	**20.8168**	**2.0862**	**1.4100e-003**	**2.0876**		**143.9587**	**143.9587**	**9.2900e-003**		**144.1908**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0101	0.3925	0.0677	9.0000e-004	4.2492	1.1400e-003	4.2504	0.4261	1.0900e-003	0.4271		96.7191	96.7191	7.8100e-003		96.9143
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	0.0196	0.0136	0.1797	4.7000e-004	8.5154	3.5000e-004	8.5158	0.8551	3.2000e-004	0.8554		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0297**	**0.4062**	**0.2474**	**1.3700e-003**	**12.7647**	**1.4900e-003**	**12.7662**	**1.2811**	**1.4100e-003**	**1.2825**		**143.9587**	**143.9587**	**9.2900e-003**		**144.1908**

3.9 Yarnell Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	14.6625	3.5000e-004	14.6629	1.4696	3.2000e-004	1.4699		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**14.6625**	**3.5000e-004**	**14.6629**	**1.4696**	**3.2000e-004**	**1.4699**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.9 Yarnell Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	8.9919	3.5000e-004	8.9922	0.9025	3.2000e-004	0.9028		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**8.9919**	**3.5000e-004**	**8.9922**	**0.9025**	**3.2000e-004**	**0.9028**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	1.7746	3.5000e-004	1.7750	0.1844	3.2000e-004	0.1847		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**1.7746**	**3.5000e-004**	**1.7750**	**0.1844**	**3.2000e-004**	**0.1847**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	1.1036	3.5000e-004	1.1039	0.1173	3.2000e-004	0.1176		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**1.1036**	**3.5000e-004**	**1.1039**	**0.1173**	**3.2000e-004**	**0.1176**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.11 San Fernando Creek - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.0978	3.3000e-004	1.0981	0.1103	3.1000e-004	0.1107		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	15.3127	7.0000e-004	15.3134	1.5418	6.4000e-004	1.5425		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**16.4104**	**1.0300e-003**	**16.4115**	**1.6522**	**9.5000e-004**	**1.6531**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.11 San Fernando Creek - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	0.6739	3.3000e-004	0.6742	0.0680	3.1000e-004	0.0683		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	9.4072	7.0000e-004	9.4079	0.9513	6.4000e-004	0.9519		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**10.0810**	**1.0300e-003**	**10.0821**	**1.0192**	**9.5000e-004**	**1.0202**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.12 Lower San Fernando Detention Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153		461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**		**461.3128**	**461.3128**	**0.1460**		**464.9617**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	5.9264	3.5000e-004	5.9268	0.5984	3.2000e-004	0.5987		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**5.9264**	**3.5000e-004**	**5.9268**	**0.5984**	**3.2000e-004**	**0.5987**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.12 Lower San Fernando Detention Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153	0.0000	461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**	**0.0000**	**461.3128**	**461.3128**	**0.1460**		**464.9617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0136	0.1797	4.7000e-004	3.6448	3.5000e-004	3.6451	0.3702	3.2000e-004	0.3706		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**3.6448**	**3.5000e-004**	**3.6451**	**0.3702**	**3.2000e-004**	**0.3706**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874		892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**6.3300e-003**	**0.3123**	**0.3187**	**9.6000e-004**	**0.2874**	**0.2883**		**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	1.0385	5.7000e-004	1.0390	0.1051	5.5000e-004	0.1056		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	8.3930	7.0000e-004	8.3937	0.8518	6.4000e-004	0.8524		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**9.4315**	**1.2700e-003**	**9.4328**	**0.9569**	**1.1900e-003**	**0.9580**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.13 Bull Creek Extension (Sediment Basin) - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874	0.0000	892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**2.8500e-003**	**0.3123**	**0.3152**	**4.3000e-004**	**0.2874**	**0.2878**	**0.0000**	**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	0.6390	5.7000e-004	0.6396	0.0651	5.5000e-004	0.0657		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	5.1718	7.0000e-004	5.1725	0.5297	6.4000e-004	0.5303		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**5.8109**	**1.2700e-003**	**5.8121**	**0.5948**	**1.1900e-003**	**0.5960**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.14 Upper Northeast Drainage - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117		464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**		**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0101	0.3925	0.0677	9.0000e-004	0.0175	1.1400e-003	0.0186	4.8000e-003	1.0900e-003	5.8900e-003		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**0.1069**	**1.8400e-003**	**0.1088**	**0.0285**	**1.7300e-003**	**0.0303**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.14 Upper Northeast Drainage - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117	0.0000	464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**	**0.0000**	**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0101	0.3925	0.0677	9.0000e-004	0.0175	1.1400e-003	0.0186	4.8000e-003	1.0900e-003	5.8900e-003		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**0.1069**	**1.8400e-003**	**0.1088**	**0.0285**	**1.7300e-003**	**0.0303**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.15 LAR North Dike Stormwater Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0204	0.0000	0.0204	3.0900e-003	0.0000	3.0900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0204**	**0.2184**	**0.2388**	**3.0900e-003**	**0.2009**	**0.2040**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.7954	3.3000e-004	1.7958	0.1799	3.1000e-004	0.1802		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	25.1732	7.0000e-004	25.1739	2.5251	6.4000e-004	2.5258		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**26.9687**	**1.0300e-003**	**26.9697**	**2.7050**	**9.5000e-004**	**2.7060**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.15 LAR North Dike Stormwater Basin - 2019

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					9.2000e-003	0.0000	9.2000e-003	1.3900e-003	0.0000	1.3900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**9.2000e-003**	**0.2184**	**0.2276**	**1.3900e-003**	**0.2009**	**0.2023**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.1009	3.3000e-004	1.1012	0.1105	3.1000e-004	0.1108		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	15.4426	7.0000e-004	15.4433	1.5521	6.4000e-004	1.5527		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**16.5435**	**1.0300e-003**	**16.5445**	**1.6625**	**9.5000e-004**	**1.6635**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.16 East Channel - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.3800e-003	0.1308	0.0226	3.0000e-004	0.4962	3.8000e-004	0.4966	0.0505	3.6000e-004	0.0509		32.2397	32.2397	2.6000e-003		32.3048
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	0.0392	0.0273	0.3595	9.5000e-004	5.9711	7.0000e-004	5.9718	0.6103	6.4000e-004	0.6109		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0426**	**0.1581**	**0.3820**	**1.2500e-003**	**6.4673**	**1.0800e-003**	**6.4684**	**0.6608**	**1.0000e-003**	**0.6618**		**126.7188**	**126.7188**	**5.5500e-003**		**126.8578**

3.16 East Channel - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.3800e-003	0.1308	0.0226	3.0000e-004	0.3060	3.8000e-004	0.3063	0.0315	3.6000e-004	0.0318		32.2397	32.2397	2.6000e-003		32.3048
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	0.0392	0.0273	0.3595	9.5000e-004	3.6895	7.0000e-004	3.6902	0.3821	6.4000e-004	0.3827		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0426**	**0.1581**	**0.3820**	**1.2500e-003**	**3.9954**	**1.0800e-003**	**3.9965**	**0.4136**	**1.0000e-003**	**0.4146**		**126.7188**	**126.7188**	**5.5500e-003**		**126.8578**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Winter

tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

tblTripsAndVMT	HaulingTripNumber	55.00	2.00
tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.8936	9.4286	7.5362	0.0147	42.3198	0.4539	42.5400	4.2399	0.4176	4.4426	0.0000	1,459.5641	1,459.5641	0.4224	0.0000	1,470.1239
Maximum	**0.8936**	**9.4286**	**7.5362**	**0.0147**	**42.3198**	**0.4539**	**42.5400**	**4.2399**	**0.4176**	**4.4426**	**0.0000**	**1,459.5641**	**1,459.5641**	**0.4224**	**0.0000**	**1,470.1239**

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					
2019	0.8936	9.4286	7.5362	0.0147	25.9385	0.4539	26.1588	2.6008	0.4176	2.8034	0.0000	1,459.5641	1,459.5641	0.4224	0.0000	1,470.1239
Maximum	**0.8936**	**9.4286**	**7.5362**	**0.0147**	**25.9385**	**0.4539**	**26.1588**	**2.6008**	**0.4176**	**2.8034**	**0.0000**	**1,459.5641**	**1,459.5641**	**0.4224**	**0.0000**	**1,470.1239**

	ROG	NOx	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**	**38.71**	**0.00**	**38.51**	**38.66**	**0.00**	**36.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	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	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0259	0.0000	0.0259	3.9300e-003	0.0000	3.9300e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0259**	**0.3354**	**0.3613**	**3.9300e-003**	**0.3086**	**0.3125**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2500e-003	0.1569	0.0308	3.5000e-004	3.0667	4.7000e-004	3.0672	0.3070	4.5000e-004	0.3075		37.4583	37.4583	3.3300e-003		37.5416
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	0.0427	0.0299	0.3243	8.9000e-004	30.7089	7.0000e-004	30.7096	3.0772	6.4000e-004	3.0778		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0469**	**0.1868**	**0.3551**	**1.2400e-003**	**33.7757**	**1.1700e-003**	**33.7768**	**3.3842**	**1.0900e-003**	**3.3853**		**125.8307**	**125.8307**	**6.0900e-003**		**125.9831**

3.2 Upper Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0117**	**0.3354**	**0.3471**	**1.7700e-003**	**0.3086**	**0.3103**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2500e-003	0.1569	0.0308	3.5000e-004	1.8798	4.7000e-004	1.8803	0.1884	4.5000e-004	0.1888		37.4583	37.4583	3.3300e-003		37.5416
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	0.0427	0.0299	0.3243	8.9000e-004	18.8309	7.0000e-004	18.8315	1.8893	6.4000e-004	1.8900		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0469**	**0.1868**	**0.3551**	**1.2400e-003**	**20.7106**	**1.1700e-003**	**20.7118**	**2.0777**	**1.0900e-003**	**2.0788**		**125.8307**	**125.8307**	**6.0900e-003**		**125.9831**

3.3 Middle Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0669	0.0000	0.0669	0.0101	0.0000	0.0101			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0669**	**0.3354**	**0.4023**	**0.0101**	**0.3086**	**0.3187**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.7282	3.4000e-004	1.7285	0.1732	3.2000e-004	0.1735		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**26.0364**	**1.0400e-003**	**26.0375**	**2.6121**	**9.6000e-004**	**2.6130**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.3 Middle Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0301**	**0.3354**	**0.3655**	**4.5600e-003**	**0.3086**	**0.3131**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.0597	3.4000e-004	1.0601	0.1064	3.2000e-004	0.1067		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**15.9729**	**1.0400e-003**	**15.9739**	**1.6057**	**9.6000e-004**	**1.6067**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.4 Bee Drainage Channel - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0248**	**0.2384**	**0.2632**	**3.7600e-003**	**0.2193**	**0.2231**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	3.0243	5.9000e-004	3.0249	0.3031	5.7000e-004	0.3037		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**27.3326**	**1.2900e-003**	**27.3339**	**2.7420**	**1.2100e-003**	**2.7432**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.4 Bee Drainage Channel - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0112**	**0.2384**	**0.2496**	**1.6900e-003**	**0.2193**	**0.2210**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	1.8545	5.9000e-004	1.8551	0.1861	5.7000e-004	0.1867		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**16.7677**	**1.2900e-003**	**16.7689**	**1.6855**	**1.2100e-003**	**1.6867**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.5 San Fernando Gate Drainage Feature - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0359**	**0.2184**	**0.2542**	**5.4300e-003**	**0.2009**	**0.2063**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0106	0.3924	0.0771	8.7000e-004	8.4611	1.1800e-003	8.4623	0.8468	1.1300e-003	0.8479		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	33.8228	7.0000e-004	33.8235	3.3877	6.4000e-004	3.3883		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**42.2839**	**1.8800e-003**	**42.2858**	**4.2345**	**1.7700e-003**	**4.2363**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.5 San Fernando Gate Drainage Feature - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0161**	**0.2184**	**0.2345**	**2.4400e-003**	**0.2009**	**0.2033**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0106	0.3924	0.0771	8.7000e-004	5.1856	1.1800e-003	5.1868	0.5193	1.1300e-003	0.5204		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	20.7368	7.0000e-004	20.7375	2.0791	6.4000e-004	2.0797		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**25.9224**	**1.8800e-003**	**25.9243**	**2.5983**	**1.7700e-003**	**2.6001**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.6 Upper San Fernando Drain Line - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.1200e-003	0.0785	0.0154	1.7000e-004	1.2921	2.4000e-004	1.2924	0.1295	2.3000e-004	0.1297		18.7291	18.7291	1.6700e-003		18.7708
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	0.0427	0.0299	0.3243	8.9000e-004	25.8652	7.0000e-004	25.8659	2.5941	6.4000e-004	2.5948		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0448**	**0.1083**	**0.3397**	**1.0600e-003**	**27.1573**	**9.4000e-004**	**27.1582**	**2.7236**	**8.7000e-004**	**2.7245**		**107.1016**	**107.1016**	**4.4300e-003**		**107.2123**

3.6 Upper San Fernando Drain Line - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.1200e-003	0.0785	0.0154	1.7000e-004	0.7922	2.4000e-004	0.7925	0.0795	2.3000e-004	0.0797		18.7291	18.7291	1.6700e-003		18.7708
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	0.0427	0.0299	0.3243	8.9000e-004	15.8661	7.0000e-004	15.8668	1.5942	6.4000e-004	1.5949		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0448**	**0.1083**	**0.3397**	**1.0600e-003**	**16.6583**	**9.4000e-004**	**16.6593**	**1.6737**	**8.7000e-004**	**1.6746**		**107.1016**	**107.1016**	**4.4300e-003**		**107.2123**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162		1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**		**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	7.0800e-003	0.2616	0.0514	5.8000e-004	4.7189	7.9000e-004	4.7197	0.4726	7.5000e-004	0.4734		62.4305	62.4305	5.5500e-003		62.5693
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	0.0427	0.0299	0.3243	8.9000e-004	28.2871	7.0000e-004	28.2878	2.8356	6.4000e-004	2.8363		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0497**	**0.2914**	**0.3757**	**1.4700e-003**	**33.0060**	**1.4900e-003**	**33.0075**	**3.3083**	**1.3900e-003**	**3.3097**		**150.8029**	**150.8029**	**8.3100e-003**		**151.0108**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162	0.0000	1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**	**0.0000**	**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	7.0800e-003	0.2616	0.0514	5.8000e-004	2.8929	7.9000e-004	2.8936	0.2900	7.5000e-004	0.2908		62.4305	62.4305	5.5500e-003		62.5693
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	0.0427	0.0299	0.3243	8.9000e-004	17.3485	7.0000e-004	17.3492	1.7418	6.4000e-004	1.7424		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0497**	**0.2914**	**0.3757**	**1.4700e-003**	**20.2413**	**1.4900e-003**	**20.2428**	**2.0318**	**1.3900e-003**	**2.0332**		**150.8029**	**150.8029**	**8.3100e-003**		**151.0108**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0106	0.3924	0.0771	8.7000e-004	6.9313	1.1800e-003	6.9325	0.6943	1.1300e-003	0.6954		93.6457	93.6457	8.3300e-003		93.8540
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	0.0213	0.0149	0.1622	4.4000e-004	13.8840	3.5000e-004	13.8844	1.3919	3.2000e-004	1.3923		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0320**	**0.4073**	**0.2392**	**1.3100e-003**	**20.8153**	**1.5300e-003**	**20.8169**	**2.0862**	**1.4500e-003**	**2.0876**		**137.8319**	**137.8319**	**9.7100e-003**		**138.0747**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0106	0.3924	0.0771	8.7000e-004	4.2492	1.1800e-003	4.2504	0.4261	1.1300e-003	0.4272		93.6457	93.6457	8.3300e-003		93.8540
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	0.0213	0.0149	0.1622	4.4000e-004	8.5154	3.5000e-004	8.5158	0.8551	3.2000e-004	0.8554		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0320**	**0.4073**	**0.2392**	**1.3100e-003**	**12.7647**	**1.5300e-003**	**12.7662**	**1.2811**	**1.4500e-003**	**1.2826**		**137.8319**	**137.8319**	**9.7100e-003**		**138.0747**

3.9 Yarnell Debris Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	14.6625	3.5000e-004	14.6629	1.4696	3.2000e-004	1.4699		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**14.6625**	**3.5000e-004**	**14.6629**	**1.4696**	**3.2000e-004**	**1.4699**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.9 Yarnell Debris Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	8.9919	3.5000e-004	8.9922	0.9025	3.2000e-004	0.9028		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**8.9919**	**3.5000e-004**	**8.9922**	**0.9025**	**3.2000e-004**	**0.9028**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	1.7746	3.5000e-004	1.7750	0.1844	3.2000e-004	0.1847		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**1.7746**	**3.5000e-004**	**1.7750**	**0.1844**	**3.2000e-004**	**0.1847**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	1.1036	3.5000e-004	1.1039	0.1173	3.2000e-004	0.1176		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**1.1036**	**3.5000e-004**	**1.1039**	**0.1173**	**3.2000e-004**	**0.1176**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.11 San Fernando Creek - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.0978	3.4000e-004	1.0981	0.1103	3.2000e-004	0.1107		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	15.3127	7.0000e-004	15.3134	1.5418	6.4000e-004	1.5425		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**16.4104**	**1.0400e-003**	**16.4115**	**1.6522**	**9.6000e-004**	**1.6531**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.11 San Fernando Creek - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	0.6739	3.4000e-004	0.6742	0.0680	3.2000e-004	0.0683		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	9.4072	7.0000e-004	9.4079	0.9513	6.4000e-004	0.9519		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**10.0810**	**1.0400e-003**	**10.0821**	**1.0192**	**9.6000e-004**	**1.0202**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.12 Lower San Fernando Detention Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153		461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**		**461.3128**	**461.3128**	**0.1460**		**464.9617**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	5.9264	3.5000e-004	5.9268	0.5984	3.2000e-004	0.5987		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**5.9264**	**3.5000e-004**	**5.9268**	**0.5984**	**3.2000e-004**	**0.5987**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.12 Lower San Fernando Detention Basin - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153	0.0000	461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**	**0.0000**	**461.3128**	**461.3128**	**0.1460**		**464.9617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1622	4.4000e-004	3.6448	3.5000e-004	3.6451	0.3702	3.2000e-004	0.3706		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**3.6448**	**3.5000e-004**	**3.6451**	**0.3702**	**3.2000e-004**	**0.3706**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874		892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**6.3300e-003**	**0.3123**	**0.3187**	**9.6000e-004**	**0.2874**	**0.2883**		**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	1.0385	5.9000e-004	1.0391	0.1051	5.7000e-004	0.1057		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	8.3930	7.0000e-004	8.3937	0.8518	6.4000e-004	0.8524		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**9.4315**	**1.2900e-003**	**9.4328**	**0.9569**	**1.2100e-003**	**0.9581**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.13 Bull Creek Extension (Sediment Basin) - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874	0.0000	892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**2.8500e-003**	**0.3123**	**0.3152**	**4.3000e-004**	**0.2874**	**0.2878**	**0.0000**	**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	0.6390	5.9000e-004	0.6396	0.0651	5.7000e-004	0.0657		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	5.1718	7.0000e-004	5.1725	0.5297	6.4000e-004	0.5303		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**5.8109**	**1.2900e-003**	**5.8121**	**0.5948**	**1.2100e-003**	**0.5960**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.14 Upper Northeast Drainage - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117		464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**		**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0106	0.3924	0.0771	8.7000e-004	0.0175	1.1800e-003	0.0187	4.8000e-003	1.1300e-003	5.9300e-003		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**0.1069**	**1.8800e-003**	**0.1088**	**0.0285**	**1.7700e-003**	**0.0303**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.14 Upper Northeast Drainage - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117	0.0000	464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**	**0.0000**	**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0106	0.3924	0.0771	8.7000e-004	0.0175	1.1800e-003	0.0187	4.8000e-003	1.1300e-003	5.9300e-003		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**0.1069**	**1.8800e-003**	**0.1088**	**0.0285**	**1.7700e-003**	**0.0303**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.15 LAR North Dike Stormwater Basin - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0204	0.0000	0.0204	3.0900e-003	0.0000	3.0900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0204**	**0.2184**	**0.2388**	**3.0900e-003**	**0.2009**	**0.2040**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.7954	3.4000e-004	1.7958	0.1799	3.2000e-004	0.1802		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	25.1732	7.0000e-004	25.1739	2.5251	6.4000e-004	2.5258		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**26.9687**	**1.0400e-003**	**26.9697**	**2.7050**	**9.6000e-004**	**2.7060**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.15 LAR North Dike Stormwater Basin - 2019

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					9.2000e-003	0.0000	9.2000e-003	1.3900e-003	0.0000	1.3900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**9.2000e-003**	**0.2184**	**0.2276**	**1.3900e-003**	**0.2009**	**0.2023**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.1009	3.4000e-004	1.1012	0.1105	3.2000e-004	0.1108		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	15.4426	7.0000e-004	15.4433	1.5521	6.4000e-004	1.5527		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**16.5435**	**1.0400e-003**	**16.5445**	**1.6625**	**9.6000e-004**	**1.6635**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.16 East Channel - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.5400e-003	0.1308	0.0257	2.9000e-004	0.4962	3.9000e-004	0.4966	0.0505	3.8000e-004	0.0509		31.2152	31.2152	2.7800e-003		31.2847
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	0.0427	0.0299	0.3243	8.9000e-004	5.9711	7.0000e-004	5.9718	0.6103	6.4000e-004	0.6109		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0462**	**0.1606**	**0.3500**	**1.1800e-003**	**6.4673**	**1.0900e-003**	**6.4684**	**0.6608**	**1.0200e-003**	**0.6618**		**119.5877**	**119.5877**	**5.5400e-003**		**119.7261**

3.16 East Channel - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.5400e-003	0.1308	0.0257	2.9000e-004	0.3060	3.9000e-004	0.3064	0.0315	3.8000e-004	0.0319		31.2152	31.2152	2.7800e-003		31.2847
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	0.0427	0.0299	0.3243	8.9000e-004	3.6895	7.0000e-004	3.6902	0.3821	6.4000e-004	0.3827		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0462**	**0.1606**	**0.3500**	**1.1800e-003**	**3.9954**	**1.0900e-003**	**3.9965**	**0.4136**	**1.0200e-003**	**0.4146**		**119.5877**	**119.5877**	**5.5400e-003**		**119.7261**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

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Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60
tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0112	0.1171	0.0926	2.0000e-004	0.4414	5.0400e-003	0.4464	0.0444	4.6400e-003	0.0490	0.0000	17.9649	17.9649	5.1500e-003	0.0000	18.0937
Maximum	**0.0112**	**0.1171**	**0.0926**	**2.0000e-004**	**0.4414**	**5.0400e-003**	**0.4464**	**0.0444**	**4.6400e-003**	**0.0490**	**0.0000**	**17.9649**	**17.9649**	**5.1500e-003**	**0.0000**	**18.0937**

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					
2020	0.0112	0.1171	0.0926	2.0000e-004	0.2708	5.0400e-003	0.2758	0.0273	4.6400e-003	0.0319	0.0000	17.9649	17.9649	5.1500e-003	0.0000	18.0937
Maximum	**0.0112**	**0.1171**	**0.0926**	**2.0000e-004**	**0.2708**	**5.0400e-003**	**0.2758**	**0.0273**	**4.6400e-003**	**0.0319**	**0.0000**	**17.9649**	**17.9649**	**5.1500e-003**	**0.0000**	**18.0937**

	ROG	NOx	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**	**38.65**	**0.00**	**38.22**	**38.49**	**0.00**	**34.87**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
9	7-23-2020	9-30-2020	0.0791	0.0791
		Highest	0.0791	0.0791

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

	ROG	NOx	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

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40
East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

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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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2020

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					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0167	0.0135	3.0000e-005		7.4000e-004	7.4000e-004		6.8000e-004	6.8000e-004	0.0000	2.3917	2.3917	7.7000e-004	0.0000	2.4110
Total	**1.5500e-003**	**0.0167**	**0.0135**	**3.0000e-005**	**1.3000e-004**	**7.4000e-004**	**8.7000e-004**	**2.0000e-005**	**6.8000e-004**	**7.0000e-004**	**0.0000**	**2.3917**	**2.3917**	**7.7000e-004**	**0.0000**	**2.4110**

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	7.5000e-004	1.4000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0703	0.0000	0.0703	7.0400e-003	0.0000	7.0400e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.1000e-004**	**8.2000e-004**	**9.0000e-004**	**0.0000**	**0.0843**	**0.0000**	**0.0843**	**8.4500e-003**	**0.0000**	**8.4500e-003**	**0.0000**	**0.3691**	**0.3691**	**2.0000e-005**	**0.0000**	**0.3696**

3.2 Upper Debris Basin - 2020

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					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0167	0.0135	3.0000e-005		7.4000e-004	7.4000e-004		6.8000e-004	6.8000e-004	0.0000	2.3916	2.3916	7.7000e-004	0.0000	2.4110
Total	**1.5500e-003**	**0.0167**	**0.0135**	**3.0000e-005**	**6.0000e-005**	**7.4000e-004**	**8.0000e-004**	**1.0000e-005**	**6.8000e-004**	**6.9000e-004**	**0.0000**	**2.3916**	**2.3916**	**7.7000e-004**	**0.0000**	**2.4110**

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	7.5000e-004	1.4000e-004	0.0000	8.6000e-003	0.0000	8.6000e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0431	0.0000	0.0431	4.3300e-003	0.0000	4.3300e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.1000e-004**	**8.2000e-004**	**9.0000e-004**	**0.0000**	**0.0517**	**0.0000**	**0.0517**	**5.1900e-003**	**0.0000**	**5.1900e-003**	**0.0000**	**0.3691**	**0.3691**	**2.0000e-005**	**0.0000**	**0.3696**

3.3 Middle Debris Basin - 2020

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					4.7000e-004	0.0000	4.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0301	0.0242	5.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	4.3050	4.3050	1.3900e-003	0.0000	4.3398
Total	**2.8000e-003**	**0.0301**	**0.0242**	**5.0000e-005**	**4.7000e-004**	**1.3400e-003**	**1.8100e-003**	**7.0000e-005**	**1.2300e-003**	**1.3000e-003**	**0.0000**	**4.3050**	**4.3050**	**1.3900e-003**	**0.0000**	**4.3398**

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	7.5000e-004	1.4000e-004	0.0000	0.0111	0.0000	0.0111	1.1100e-003	0.0000	1.1100e-003	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	0.1001	0.0000	0.1001	0.0101	0.0000	0.0101	0.0000	0.3556	0.3556	1.0000e-005	0.0000	0.3558
Total	**1.8000e-004**	**8.7000e-004**	**1.5000e-003**	**0.0000**	**0.1112**	**0.0000**	**0.1112**	**0.0112**	**0.0000**	**0.0112**	**0.0000**	**0.5272**	**0.5272**	**2.0000e-005**	**0.0000**	**0.5278**

3.3 Middle Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0301	0.0242	5.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	4.3050	4.3050	1.3900e-003	0.0000	4.3398
Total	**2.8000e-003**	**0.0301**	**0.0242**	**5.0000e-005**	**2.1000e-004**	**1.3400e-003**	**1.5500e-003**	**3.0000e-005**	**1.2300e-003**	**1.2600e-003**	**0.0000**	**4.3050**	**4.3050**	**1.3900e-003**	**0.0000**	**4.3398**

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	7.5000e-004	1.4000e-004	0.0000	6.7900e-003	0.0000	6.7900e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	0.0614	0.0000	0.0614	6.1800e-003	0.0000	6.1800e-003	0.0000	0.3556	0.3556	1.0000e-005	0.0000	0.3558
Total	**1.8000e-004**	**8.7000e-004**	**1.5000e-003**	**0.0000**	**0.0682**	**0.0000**	**0.0682**	**6.8600e-003**	**0.0000**	**6.8600e-003**	**0.0000**	**0.5272**	**0.5272**	**2.0000e-005**	**0.0000**	**0.5278**

3.4 Bee Drainage Channel - 2020

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	4.8900e-003	2.9400e-003	1.0000e-005		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.6164	0.6164	2.0000e-004	0.0000	0.6214
Total	**4.4000e-004**	**4.8900e-003**	**2.9400e-003**	**1.0000e-005**	**2.0000e-005**	**2.1000e-004**	**2.3000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**0.6164**	**0.6164**	**2.0000e-004**	**0.0000**	**0.6214**

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	1.9000e-004	3.0000e-005	0.0000	2.7700e-003	0.0000	2.7700e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0223	0.0000	0.0223	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0250**	**0.0000**	**0.0250**	**2.5100e-003**	**0.0000**	**2.5100e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.4 Bee Drainage Channel - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	4.8900e-003	2.9400e-003	1.0000e-005		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.6164	0.6164	2.0000e-004	0.0000	0.6214
Total	**4.4000e-004**	**4.8900e-003**	**2.9400e-003**	**1.0000e-005**	**1.0000e-005**	**2.1000e-004**	**2.2000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**0.6164**	**0.6164**	**2.0000e-004**	**0.0000**	**0.6214**

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	1.9000e-004	3.0000e-005	0.0000	1.7000e-003	0.0000	1.7000e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0137	0.0000	0.0137	1.3700e-003	0.0000	1.3700e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0154**	**0.0000**	**0.0154**	**1.5400e-003**	**0.0000**	**1.5400e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.5 San Fernando Gate Drainage Feature - 2020

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					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	5.1200e-003	3.6800e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.7520	0.7520	2.4000e-004	0.0000	0.7581
Total	**4.6000e-004**	**5.1200e-003**	**3.6800e-003**	**1.0000e-005**	**4.0000e-005**	**2.0000e-004**	**2.4000e-004**	**1.0000e-005**	**1.8000e-004**	**1.9000e-004**	**0.0000**	**0.7520**	**0.7520**	**2.4000e-004**	**0.0000**	**0.7581**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	7.7400e-003	0.0000	7.7400e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0310	0.0000	0.0310	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**5.0000e-005**	**4.1000e-004**	**3.7000e-004**	**0.0000**	**0.0387**	**0.0000**	**0.0387**	**3.8800e-003**	**0.0000**	**3.8800e-003**	**0.0000**	**0.1648**	**0.1648**	**1.0000e-005**	**0.0000**	**0.1651**

3.5 San Fernando Gate Drainage Feature - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	5.1200e-003	3.6800e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.7520	0.7520	2.4000e-004	0.0000	0.7581
Total	**4.6000e-004**	**5.1200e-003**	**3.6800e-003**	**1.0000e-005**	**2.0000e-005**	**2.0000e-004**	**2.2000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.7520**	**0.7520**	**2.4000e-004**	**0.0000**	**0.7581**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	4.7500e-003	0.0000	4.7500e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0190	0.0000	0.0190	1.9000e-003	0.0000	1.9000e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**5.0000e-005**	**4.1000e-004**	**3.7000e-004**	**0.0000**	**0.0237**	**0.0000**	**0.0237**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.1648**	**0.1648**	**1.0000e-005**	**0.0000**	**0.1651**

3.6 Upper San Fernando Drain Line - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-004	7.6700e-003	5.5200e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.1280	1.1280	3.6000e-004	0.0000	1.1372
Total	**7.0000e-004**	**7.6700e-003**	**5.5200e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1280**	**1.1280**	**3.6000e-004**	**0.0000**	**1.1372**

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	1.9000e-004	3.0000e-005	0.0000	2.9600e-003	0.0000	2.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0355	0.0000	0.0355	3.5600e-003	0.0000	3.5600e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**0.0385**	**0.0000**	**0.0385**	**3.8600e-003**	**0.0000**	**3.8600e-003**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.6 Upper San Fernando Drain Line - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-004	7.6700e-003	5.5200e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.1280	1.1280	3.6000e-004	0.0000	1.1372
Total	**7.0000e-004**	**7.6700e-003**	**5.5200e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1280**	**1.1280**	**3.6000e-004**	**0.0000**	**1.1372**

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	1.9000e-004	3.0000e-005	0.0000	1.8100e-003	0.0000	1.8100e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0218	0.0000	0.0218	2.1900e-003	0.0000	2.1900e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**0.0236**	**0.0000**	**0.0236**	**2.3700e-003**	**0.0000**	**2.3700e-003**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	0.0129	0.0000	0.0130	1.3000e-003	0.0000	1.3000e-003	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.0129**	**0.0000**	**0.0130**	**1.3000e-003**	**0.0000**	**1.3000e-003**	**0.0000**	**0.0395**	**0.0395**	**0.0000**	**0.0000**	**0.0395**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	7.9400e-003	0.0000	7.9400e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**7.9400e-003**	**0.0000**	**7.9400e-003**	**8.0000e-004**	**0.0000**	**8.0000e-004**	**0.0000**	**0.0395**	**0.0395**	**0.0000**	**0.0000**	**0.0395**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.9000e-004	3.0000e-005	0.0000	3.1700e-003	0.0000	3.1700e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	6.3500e-003	0.0000	6.3500e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**2.0000e-004**	**1.1000e-004**	**0.0000**	**9.5200e-003**	**0.0000**	**9.5200e-003**	**9.6000e-004**	**0.0000**	**9.6000e-004**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.9000e-004	3.0000e-005	0.0000	1.9400e-003	0.0000	1.9500e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	3.9000e-003	0.0000	3.9000e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**2.0000e-004**	**1.1000e-004**	**0.0000**	**5.8400e-003**	**0.0000**	**5.8500e-003**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

3.9 Yarnell Debris Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.7100e-003	0.0000	6.7100e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.7100e-003**	**0.0000**	**6.7100e-003**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.9 Yarnell Debris Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	4.1200e-003	0.0000	4.1200e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**4.1200e-003**	**0.0000**	**4.1200e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	8.1000e-004	0.0000	8.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**8.1000e-004**	**0.0000**	**8.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.1000e-004	0.0000	5.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**5.1000e-004**	**0.0000**	**5.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.11 San Fernando Creek - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	6.7000e-003	5.3900e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	0.9567	0.9567	3.1000e-004	0.0000	0.9644
Total	**6.2000e-004**	**6.7000e-003**	**5.3900e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.9567**	**0.9567**	**3.1000e-004**	**0.0000**	**0.9644**

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	1.9000e-004	3.0000e-005	0.0000	1.7600e-003	0.0000	1.7600e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0158**	**0.0000**	**0.0158**	**1.5900e-003**	**0.0000**	**1.5900e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.11 San Fernando Creek - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	6.7000e-003	5.3900e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	0.9567	0.9567	3.1000e-004	0.0000	0.9644
Total	**6.2000e-004**	**6.7000e-003**	**5.3900e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.9567**	**0.9567**	**3.1000e-004**	**0.0000**	**0.9644**

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	1.9000e-004	3.0000e-005	0.0000	1.0800e-003	0.0000	1.0800e-003	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	8.6100e-003	0.0000	8.6100e-003	8.7000e-004	0.0000	8.7000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**9.6900e-003**	**0.0000**	**9.6900e-003**	**9.8000e-004**	**0.0000**	**9.8000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.12 Lower San Fernando Detention Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	9.4700e-003	0.0103	1.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.2278	1.2278	4.0000e-004	0.0000	1.2378
Total	**9.4000e-004**	**9.4700e-003**	**0.0103**	**1.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2278**	**1.2278**	**4.0000e-004**	**0.0000**	**1.2378**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0163	0.0000	0.0163	1.6500e-003	0.0000	1.6500e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**0.0163**	**0.0000**	**0.0163**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

3.12 Lower San Fernando Detention Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	9.4700e-003	0.0103	1.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.2278	1.2278	4.0000e-004	0.0000	1.2378
Total	**9.4000e-004**	**9.4700e-003**	**0.0103**	**1.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2278**	**1.2278**	**4.0000e-004**	**0.0000**	**1.2378**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0100	0.0000	0.0100	1.0200e-003	0.0000	1.0200e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**0.0100**	**0.0000**	**0.0100**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	7.3500e-003	2.8100e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.5000e-004	2.5000e-004	0.0000	0.7919	0.7919	2.6000e-004	0.0000	0.7983
Total	**6.2000e-004**	**7.3500e-003**	**2.8100e-003**	**1.0000e-005**	**1.0000e-005**	**2.8000e-004**	**2.9000e-004**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.7919**	**0.7919**	**2.6000e-004**	**0.0000**	**0.7983**

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	1.9000e-004	3.0000e-005	0.0000	9.5000e-004	0.0000	9.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	7.6900e-003	0.0000	7.6900e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**8.6400e-003**	**0.0000**	**8.6400e-003**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	7.3500e-003	2.8100e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.5000e-004	2.5000e-004	0.0000	0.7919	0.7919	2.6000e-004	0.0000	0.7983
Total	**6.2000e-004**	**7.3500e-003**	**2.8100e-003**	**1.0000e-005**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.7919**	**0.7919**	**2.6000e-004**	**0.0000**	**0.7983**

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	1.9000e-004	3.0000e-005	0.0000	5.9000e-004	0.0000	5.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.7400e-003	0.0000	4.7400e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**5.3300e-003**	**0.0000**	**5.3300e-003**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.14 Upper Northeast Drainage - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.6500e-003	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2059	0.2059	7.0000e-005	0.0000	0.2075
Total	**1.4000e-004**	**1.6500e-003**	**6.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2059**	**0.2059**	**7.0000e-005**	**0.0000**	**0.2075**

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	1.9000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**2.0000e-004**	**1.8000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0824**	**0.0824**	**0.0000**	**0.0000**	**0.0825**

3.14 Upper Northeast Drainage - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.6500e-003	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2059	0.2059	7.0000e-005	0.0000	0.2075
Total	**1.4000e-004**	**1.6500e-003**	**6.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2059**	**0.2059**	**7.0000e-005**	**0.0000**	**0.2075**

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	1.9000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**2.0000e-004**	**1.8000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0824**	**0.0824**	**0.0000**	**0.0000**	**0.0825**

3.15 LAR North Dike Stormwater Basin - 2020

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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1600e-003	0.0128	9.1900e-003	2.0000e-005		4.9000e-004	4.9000e-004		4.5000e-004	4.5000e-004	0.0000	1.8801	1.8801	6.1000e-004	0.0000	1.8953
Total	**1.1600e-003**	**0.0128**	**9.1900e-003**	**2.0000e-005**	**7.0000e-005**	**4.9000e-004**	**5.6000e-004**	**1.0000e-005**	**4.5000e-004**	**4.6000e-004**	**0.0000**	**1.8801**	**1.8801**	**6.1000e-004**	**0.0000**	**1.8953**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	5.7500e-003	0.0000	5.7500e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0576	0.0000	0.0576	5.7800e-003	0.0000	5.7800e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.0000e-004**	**4.5000e-004**	**8.3000e-004**	**0.0000**	**0.0634**	**0.0000**	**0.0634**	**6.3600e-003**	**0.0000**	**6.3600e-003**	**0.0000**	**0.2833**	**0.2833**	**2.0000e-005**	**0.0000**	**0.2837**

3.15 LAR North Dike Stormwater Basin - 2020

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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1600e-003	0.0128	9.1900e-003	2.0000e-005		4.9000e-004	4.9000e-004		4.5000e-004	4.5000e-004	0.0000	1.8800	1.8800	6.1000e-004	0.0000	1.8953
Total	**1.1600e-003**	**0.0128**	**9.1900e-003**	**2.0000e-005**	**3.0000e-005**	**4.9000e-004**	**5.2000e-004**	**0.0000**	**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.8800**	**1.8800**	**6.1000e-004**	**0.0000**	**1.8953**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	3.5300e-003	0.0000	3.5300e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0353	0.0000	0.0353	3.5500e-003	0.0000	3.5600e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.0000e-004**	**4.5000e-004**	**8.3000e-004**	**0.0000**	**0.0389**	**0.0000**	**0.0389**	**3.9000e-003**	**0.0000**	**3.9100e-003**	**0.0000**	**0.2833**	**0.2833**	**2.0000e-005**	**0.0000**	**0.2837**

3.16 East Channel - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	7.3300e-003	4.4000e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9246	0.9246	3.0000e-004	0.0000	0.9321
Total	**6.6000e-004**	**7.3300e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.9246**	**0.9246**	**3.0000e-004**	**0.0000**	**0.9321**

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	1.9000e-004	3.0000e-005	0.0000	6.8000e-004	0.0000	6.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	8.2000e-003	0.0000	8.2100e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**8.8800e-003**	**0.0000**	**8.8900e-003**	**9.1000e-004**	**0.0000**	**9.1000e-004**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.16 East Channel - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	7.3300e-003	4.4000e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9246	0.9246	3.0000e-004	0.0000	0.9321
Total	**6.6000e-004**	**7.3300e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.9246**	**0.9246**	**3.0000e-004**	**0.0000**	**0.9321**

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	1.9000e-004	3.0000e-005	0.0000	4.2000e-004	0.0000	4.2000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	5.0700e-003	0.0000	5.0700e-003	5.3000e-004	0.0000	5.3000e-004	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**5.4900e-003**	**0.0000**	**5.4900e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Summer

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
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tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
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tblOnRoadDust	WorkerPercentPave	100.00	82.30
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tblOnRoadDust	WorkerPercentPave	100.00	96.60
tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
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tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.6651	7.5602	5.7664	0.0125	42.3198	0.2987	42.5188	4.2399	0.2748	4.4231	0.0000	1,222.7900	1,222.7900	0.3497	0.0000	1,231.5322
Maximum	**0.6651**	**7.5602**	**5.7664**	**0.0125**	**42.3198**	**0.2987**	**42.5188**	**4.2399**	**0.2748**	**4.4231**	**0.0000**	**1,222.7900**	**1,222.7900**	**0.3497**	**0.0000**	**1,231.5322**

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					
2020	0.6651	7.5602	5.7664	0.0125	25.9385	0.2987	26.1376	2.6008	0.2748	2.7839	0.0000	1,222.7900	1,222.7900	0.3497	0.0000	1,231.5322
Maximum	**0.6651**	**7.5602**	**5.7664**	**0.0125**	**25.9385**	**0.2987**	**26.1376**	**2.6008**	**0.2748**	**2.7839**	**0.0000**	**1,222.7900**	**1,222.7900**	**0.3497**	**0.0000**	**1,231.5322**

	ROG	NOx	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**	**38.71**	**0.00**	**38.53**	**38.66**	**0.00**	**37.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	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	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0519	0.0000	0.0519	7.8600e-003	0.0000	7.8600e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0519**	**0.2973**	**0.3492**	**7.8600e-003**	**0.2735**	**0.2814**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.4400e-003	0.2960	0.0522	7.1000e-004	6.1334	7.3000e-004	6.1342	0.6141	7.0000e-004	0.6148		76.7015	76.7015	6.0000e-003		76.8515
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	0.0362	0.0243	0.3271	9.2000e-004	30.7089	6.8000e-004	30.7096	3.0772	6.2000e-004	3.0778		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0436**	**0.3203**	**0.3792**	**1.6300e-003**	**36.8424**	**1.4100e-003**	**36.8438**	**3.6912**	**1.3200e-003**	**3.6926**		**168.2549**	**168.2549**	**8.6300e-003**		**168.4707**

3.2 Upper Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0234	0.0000	0.0234	3.5400e-003	0.0000	3.5400e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0234**	**0.2973**	**0.3206**	**3.5400e-003**	**0.2735**	**0.2770**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.4400e-003	0.2960	0.0522	7.1000e-004	3.7595	7.3000e-004	3.7603	0.3767	7.0000e-004	0.3774		76.7015	76.7015	6.0000e-003		76.8515
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	0.0362	0.0243	0.3271	9.2000e-004	18.8309	6.8000e-004	18.8315	1.8893	6.2000e-004	1.8900		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0436**	**0.3203**	**0.3792**	**1.6300e-003**	**22.5904**	**1.4100e-003**	**22.5918**	**2.2660**	**1.3200e-003**	**2.2674**		**168.2549**	**168.2549**	**8.6300e-003**		**168.4707**

3.3 Middle Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1041	0.0000	0.1041	0.0158	0.0000	0.0158			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.1041**	**0.2973**	**0.4014**	**0.0158**	**0.2735**	**0.2893**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1400e-003	0.1645	0.0290	3.9000e-004	2.6883	4.1000e-004	2.6887	0.2694	3.9000e-004	0.2698		42.6119	42.6119	3.3300e-003		42.6953
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	0.0362	0.0243	0.3271	9.2000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0403**	**0.1888**	**0.3560**	**1.3100e-003**	**26.9966**	**1.0900e-003**	**26.9976**	**2.7083**	**1.0100e-003**	**2.7093**		**134.1653**	**134.1653**	**5.9600e-003**		**134.3145**

3.3 Middle Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0469	0.0000	0.0469	7.0900e-003	0.0000	7.0900e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0469**	**0.2973**	**0.3441**	**7.0900e-003**	**0.2735**	**0.2806**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1400e-003	0.1645	0.0290	3.9000e-004	1.6485	4.1000e-004	1.6489	0.1655	3.9000e-004	0.1658		42.6119	42.6119	3.3300e-003		42.6953
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	0.0362	0.0243	0.3271	9.2000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0403**	**0.1888**	**0.3560**	**1.3100e-003**	**16.5616**	**1.0900e-003**	**16.5627**	**1.6648**	**1.0100e-003**	**1.6658**		**134.1653**	**134.1653**	**5.9600e-003**		**134.3145**

3.4 Bee Drainage Channel - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0248**	**0.2096**	**0.2345**	**3.7600e-003**	**0.1929**	**0.1966**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	3.0243	4.6000e-004	3.0248	0.3031	4.4000e-004	0.3036		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**27.3326**	**1.1400e-003**	**27.3337**	**2.7420**	**1.0600e-003**	**2.7431**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.4 Bee Drainage Channel - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0112**	**0.2096**	**0.2208**	**1.6900e-003**	**0.1929**	**0.1946**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	1.8545	4.6000e-004	1.8550	0.1861	4.4000e-004	0.1866		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**16.7677**	**1.1400e-003**	**16.7688**	**1.6855**	**1.0600e-003**	**1.6866**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.5 San Fernando Gate Drainage Feature - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0359**	**0.1974**	**0.2333**	**5.4300e-003**	**0.1816**	**0.1871**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	8.4611	9.2000e-004	8.4621	0.8468	8.8000e-004	0.8477		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	33.8228	6.8000e-004	33.8235	3.3877	6.2000e-004	3.3883		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**42.2839**	**1.6000e-003**	**42.2855**	**4.2345**	**1.5000e-003**	**4.2360**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.5 San Fernando Gate Drainage Feature - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0161**	**0.1974**	**0.2136**	**2.4400e-003**	**0.1816**	**0.1841**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	5.1856	9.2000e-004	5.1866	0.5193	8.8000e-004	0.5201		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	20.7368	6.8000e-004	20.7374	2.0791	6.2000e-004	2.0797		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**25.9224**	**1.6000e-003**	**25.9240**	**2.5983**	**1.5000e-003**	**2.5998**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.6 Upper San Fernando Drain Line - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	2.1535	3.1000e-004	2.1538	0.2158	2.9000e-004	0.2161		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	25.8652	6.8000e-004	25.8659	2.5941	6.2000e-004	2.5948		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**28.0187**	**9.9000e-004**	**28.0197**	**2.8099**	**9.1000e-004**	**2.8108**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.6 Upper San Fernando Drain Line - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	1.3204	3.1000e-004	1.3207	0.1325	2.9000e-004	0.1328		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	15.8661	6.8000e-004	15.8668	1.5942	6.2000e-004	1.5948		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**17.1865**	**9.9000e-004**	**17.1875**	**1.7267**	**9.1000e-004**	**1.7276**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	28.2871	6.8000e-004	28.2877	2.8356	6.2000e-004	2.8363		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**28.2871**	**6.8000e-004**	**28.2877**	**2.8356**	**6.2000e-004**	**2.8363**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	17.3485	6.8000e-004	17.3492	1.7418	6.2000e-004	1.7424		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**17.3485**	**6.8000e-004**	**17.3492**	**1.7418**	**6.2000e-004**	**1.7424**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	6.9313	9.2000e-004	6.9322	0.6943	8.8000e-004	0.6951		95.8769	95.8769	7.5000e-003		96.0643
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	0.0181	0.0122	0.1635	4.6000e-004	13.8840	3.4000e-004	13.8844	1.3919	3.1000e-004	1.3923		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0274**	**0.3822**	**0.2288**	**1.3500e-003**	**20.8153**	**1.2600e-003**	**20.8166**	**2.0862**	**1.1900e-003**	**2.0874**		**141.6536**	**141.6536**	**8.8200e-003**		**141.8739**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	4.2492	9.2000e-004	4.2502	0.4261	8.8000e-004	0.4269		95.8769	95.8769	7.5000e-003		96.0643
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	0.0181	0.0122	0.1635	4.6000e-004	8.5154	3.4000e-004	8.5158	0.8551	3.1000e-004	0.8554		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0274**	**0.3822**	**0.2288**	**1.3500e-003**	**12.7647**	**1.2600e-003**	**12.7659**	**1.2811**	**1.1900e-003**	**1.2823**		**141.6536**	**141.6536**	**8.8200e-003**		**141.8739**

3.9 Yarnell Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	14.6625	3.4000e-004	14.6628	1.4696	3.1000e-004	1.4699		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**14.6625**	**3.4000e-004**	**14.6628**	**1.4696**	**3.1000e-004**	**1.4699**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.9 Yarnell Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	8.9919	3.4000e-004	8.9922	0.9025	3.1000e-004	0.9028		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**8.9919**	**3.4000e-004**	**8.9922**	**0.9025**	**3.1000e-004**	**0.9028**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	1.7746	3.4000e-004	1.7750	0.1844	3.1000e-004	0.1847		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**1.7746**	**3.4000e-004**	**1.7750**	**0.1844**	**3.1000e-004**	**0.1847**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	1.1036	3.4000e-004	1.1039	0.1173	3.1000e-004	0.1176		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**1.1036**	**3.4000e-004**	**1.1039**	**0.1173**	**3.1000e-004**	**0.1176**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.11 San Fernando Creek - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	1.9211	4.6000e-004	1.9215	0.1931	4.4000e-004	0.1935		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	15.3127	6.8000e-004	15.3134	1.5418	6.2000e-004	1.5424		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**17.2338**	**1.1400e-003**	**17.2349**	**1.7349**	**1.0600e-003**	**1.7360**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.11 San Fernando Creek - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	1.1792	4.6000e-004	1.1797	0.1189	4.4000e-004	0.1194		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	9.4072	6.8000e-004	9.4079	0.9513	6.2000e-004	0.9519		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**10.5864**	**1.1400e-003**	**10.5876**	**1.0702**	**1.0600e-003**	**1.0712**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.12 Lower San Fernando Detention Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837		451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**		**451.1528**	**451.1528**	**0.1459**		**454.8006**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	5.9264	3.4000e-004	5.9268	0.5984	3.1000e-004	0.5987		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**5.9264**	**3.4000e-004**	**5.9268**	**0.5984**	**3.1000e-004**	**0.5987**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.12 Lower San Fernando Detention Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837	0.0000	451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**	**0.0000**	**451.1528**	**451.1528**	**0.1459**		**454.8006**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	3.6448	3.4000e-004	3.6451	0.3702	3.1000e-004	0.3705		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**3.6448**	**3.4000e-004**	**3.6451**	**0.3702**	**3.1000e-004**	**0.3705**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544		872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**6.3300e-003**	**0.2765**	**0.2828**	**9.6000e-004**	**0.2544**	**0.2553**		**872.9622**	**872.9622**	**0.2823**		**880.0205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	1.0385	4.6000e-004	1.0389	0.1051	4.4000e-004	0.1055		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	8.3930	6.8000e-004	8.3937	0.8518	6.2000e-004	0.8524		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**9.4315**	**1.1400e-003**	**9.4326**	**0.9569**	**1.0600e-003**	**0.9579**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.13 Bull Creek Extension (Sediment Basin) - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544	0.0000	872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**2.8500e-003**	**0.2765**	**0.2793**	**4.3000e-004**	**0.2544**	**0.2548**	**0.0000**	**872.9622**	**872.9622**	**0.2823**		**880.0205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6500e-003	0.1850	0.0326	4.4000e-004	0.6390	4.6000e-004	0.6395	0.0651	4.4000e-004	0.0656		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	5.1718	6.8000e-004	5.1725	0.5297	6.2000e-004	0.5303		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**5.8109**	**1.1400e-003**	**5.8120**	**0.5948**	**1.0600e-003**	**0.5959**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.14 Upper Northeast Drainage - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010		453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**		**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	0.0175	9.2000e-004	0.0184	4.8000e-003	8.8000e-004	5.6800e-003		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**0.1069**	**1.6000e-003**	**0.1085**	**0.0285**	**1.5000e-003**	**0.0300**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.14 Upper Northeast Drainage - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010	0.0000	453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**	**0.0000**	**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	0.0175	9.2000e-004	0.0184	4.8000e-003	8.8000e-004	5.6800e-003		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**0.1069**	**1.6000e-003**	**0.1085**	**0.0285**	**1.5000e-003**	**0.0300**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.15 LAR North Dike Stormwater Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0286	0.0000	0.0286	4.3300e-003	0.0000	4.3300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0286**	**0.1974**	**0.2261**	**4.3300e-003**	**0.1816**	**0.1860**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.7200e-003	0.1480	0.0261	3.5000e-004	2.5136	3.7000e-004	2.5140	0.2519	3.5000e-004	0.2522		38.3508	38.3508	3.0000e-003		38.4257
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	0.0362	0.0243	0.3271	9.2000e-004	25.1732	6.8000e-004	25.1739	2.5251	6.2000e-004	2.5257		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0399**	**0.1723**	**0.3531**	**1.2700e-003**	**27.6868**	**1.0500e-003**	**27.6879**	**2.7770**	**9.7000e-004**	**2.7780**		**129.9042**	**129.9042**	**5.6300e-003**		**130.0449**

3.15 LAR North Dike Stormwater Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0129	0.0000	0.0129	1.9500e-003	0.0000	1.9500e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0129**	**0.1974**	**0.2103**	**1.9500e-003**	**0.1816**	**0.1836**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.7200e-003	0.1480	0.0261	3.5000e-004	1.5412	3.7000e-004	1.5416	0.1546	3.5000e-004	0.1550		38.3508	38.3508	3.0000e-003		38.4257
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	0.0362	0.0243	0.3271	9.2000e-004	15.4426	6.8000e-004	15.4432	1.5521	6.2000e-004	1.5527		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0399**	**0.1723**	**0.3531**	**1.2700e-003**	**16.9838**	**1.0500e-003**	**16.9848**	**1.7067**	**9.7000e-004**	**1.7077**		**129.9042**	**129.9042**	**5.6300e-003**		**130.0449**

3.16 East Channel - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	0.4962	3.1000e-004	0.4965	0.0505	2.9000e-004	0.0508		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	5.9711	6.8000e-004	5.9718	0.6103	6.2000e-004	0.6109		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**6.4673**	**9.9000e-004**	**6.4683**	**0.6608**	**9.1000e-004**	**0.6617**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.16 East Channel - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	0.3060	3.1000e-004	0.3063	0.0315	2.9000e-004	0.0318		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	3.6895	6.8000e-004	3.6902	0.3821	6.2000e-004	0.3827		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**3.9954**	**9.9000e-004**	**3.9964**	**0.4136**	**9.1000e-004**	**0.4145**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Winter

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60
tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.6687	7.5623	5.7407	0.0124	42.3198	0.2987	42.5188	4.2399	0.2748	4.4231	0.0000	1,214.3968	1,214.3968	0.3499	0.0000	1,223.1445
Maximum	**0.6687**	**7.5623**	**5.7407**	**0.0124**	**42.3198**	**0.2987**	**42.5188**	**4.2399**	**0.2748**	**4.4231**	**0.0000**	**1,214.3968**	**1,214.3968**	**0.3499**	**0.0000**	**1,223.1445**

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					
2020	0.6687	7.5623	5.7407	0.0124	25.9385	0.2987	26.1376	2.6008	0.2748	2.7839	0.0000	1,214.3968	1,214.3968	0.3499	0.0000	1,223.1445
Maximum	**0.6687**	**7.5623**	**5.7407**	**0.0124**	**25.9385**	**0.2987**	**26.1376**	**2.6008**	**0.2748**	**2.7839**	**0.0000**	**1,214.3968**	**1,214.3968**	**0.3499**	**0.0000**	**1,223.1445**

	ROG	NOx	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**	**38.71**	**0.00**	**38.53**	**38.66**	**0.00**	**37.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	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	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0519	0.0000	0.0519	7.8600e-003	0.0000	7.8600e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0519**	**0.2973**	**0.3492**	**7.8600e-003**	**0.2735**	**0.2814**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.8000e-003	0.2957	0.0590	6.9000e-004	6.1334	7.6000e-004	6.1342	0.6141	7.2000e-004	0.6148		74.2325	74.2325	6.3900e-003		74.3923
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	0.0395	0.0266	0.2945	8.6000e-004	30.7089	6.8000e-004	30.7096	3.0772	6.2000e-004	3.0778		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0473**	**0.3224**	**0.3535**	**1.5500e-003**	**36.8424**	**1.4400e-003**	**36.8438**	**3.6912**	**1.3400e-003**	**3.6926**		**159.8617**	**159.8617**	**8.8500e-003**		**160.0829**

3.2 Upper Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0234	0.0000	0.0234	3.5400e-003	0.0000	3.5400e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0234**	**0.2973**	**0.3206**	**3.5400e-003**	**0.2735**	**0.2770**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.8000e-003	0.2957	0.0590	6.9000e-004	3.7595	7.6000e-004	3.7603	0.3767	7.2000e-004	0.3774		74.2325	74.2325	6.3900e-003		74.3923
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	0.0395	0.0266	0.2945	8.6000e-004	18.8309	6.8000e-004	18.8315	1.8893	6.2000e-004	1.8900		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0473**	**0.3224**	**0.3535**	**1.5500e-003**	**22.5904**	**1.4400e-003**	**22.5918**	**2.2660**	**1.3400e-003**	**2.2674**		**159.8617**	**159.8617**	**8.8500e-003**		**160.0829**

3.3 Middle Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1041	0.0000	0.1041	0.0158	0.0000	0.0158			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.1041**	**0.2973**	**0.4014**	**0.0158**	**0.2735**	**0.2893**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.1643	0.0328	3.8000e-004	2.6883	4.2000e-004	2.6887	0.2694	4.0000e-004	0.2698		41.2403	41.2403	3.5500e-003		41.3290
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	0.0395	0.0266	0.2945	8.6000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0438**	**0.1909**	**0.3273**	**1.2400e-003**	**26.9966**	**1.1000e-003**	**26.9977**	**2.7083**	**1.0200e-003**	**2.7093**		**126.8695**	**126.8695**	**6.0100e-003**		**127.0196**

3.3 Middle Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0469	0.0000	0.0469	7.0900e-003	0.0000	7.0900e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0469**	**0.2973**	**0.3441**	**7.0900e-003**	**0.2735**	**0.2806**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.1643	0.0328	3.8000e-004	1.6485	4.2000e-004	1.6489	0.1655	4.0000e-004	0.1659		41.2403	41.2403	3.5500e-003		41.3290
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	0.0395	0.0266	0.2945	8.6000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0438**	**0.1909**	**0.3273**	**1.2400e-003**	**16.5616**	**1.1000e-003**	**16.5627**	**1.6648**	**1.0200e-003**	**1.6658**		**126.8695**	**126.8695**	**6.0100e-003**		**127.0196**

3.4 Bee Drainage Channel - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0248**	**0.2096**	**0.2345**	**3.7600e-003**	**0.1929**	**0.1966**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	3.0243	4.7000e-004	3.0248	0.3031	4.5000e-004	0.3036		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**27.3326**	**1.1500e-003**	**27.3337**	**2.7420**	**1.0700e-003**	**2.7431**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.4 Bee Drainage Channel - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0112**	**0.2096**	**0.2208**	**1.6900e-003**	**0.1929**	**0.1946**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	1.8545	4.7000e-004	1.8550	0.1861	4.5000e-004	0.1866		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**16.7677**	**1.1500e-003**	**16.7688**	**1.6855**	**1.0700e-003**	**1.6866**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.5 San Fernando Gate Drainage Feature - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0359**	**0.1974**	**0.2333**	**5.4300e-003**	**0.1816**	**0.1871**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	8.4611	9.5000e-004	8.4621	0.8468	9.0000e-004	0.8477		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	33.8228	6.8000e-004	33.8235	3.3877	6.2000e-004	3.3883		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**42.2839**	**1.6300e-003**	**42.2856**	**4.2345**	**1.5200e-003**	**4.2360**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.5 San Fernando Gate Drainage Feature - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0161**	**0.1974**	**0.2136**	**2.4400e-003**	**0.1816**	**0.1841**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	5.1856	9.5000e-004	5.1866	0.5193	9.0000e-004	0.5202		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	20.7368	6.8000e-004	20.7374	2.0791	6.2000e-004	2.0797		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**25.9224**	**1.6300e-003**	**25.9240**	**2.5983**	**1.5200e-003**	**2.5999**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.6 Upper San Fernando Drain Line - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	2.1535	3.2000e-004	2.1538	0.2158	3.0000e-004	0.2161		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	25.8652	6.8000e-004	25.8659	2.5941	6.2000e-004	2.5948		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**28.0187**	**1.0000e-003**	**28.0197**	**2.8099**	**9.2000e-004**	**2.8108**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.6 Upper San Fernando Drain Line - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	1.3204	3.2000e-004	1.3207	0.1325	3.0000e-004	0.1328		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	15.8661	6.8000e-004	15.8668	1.5942	6.2000e-004	1.5948		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**17.1865**	**1.0000e-003**	**17.1875**	**1.7267**	**9.2000e-004**	**1.7276**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	28.2871	6.8000e-004	28.2877	2.8356	6.2000e-004	2.8363		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**28.2871**	**6.8000e-004**	**28.2877**	**2.8356**	**6.2000e-004**	**2.8363**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	17.3485	6.8000e-004	17.3492	1.7418	6.2000e-004	1.7424		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**17.3485**	**6.8000e-004**	**17.3492**	**1.7418**	**6.2000e-004**	**1.7424**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	6.9313	9.5000e-004	6.9322	0.6943	9.0000e-004	0.6952		92.7906	92.7906	7.9900e-003		92.9903
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	0.0197	0.0133	0.1472	4.3000e-004	13.8840	3.4000e-004	13.8844	1.3919	3.1000e-004	1.3923		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0295**	**0.3830**	**0.2210**	**1.2900e-003**	**20.8153**	**1.2900e-003**	**20.8166**	**2.0862**	**1.2100e-003**	**2.0874**		**135.6052**	**135.6052**	**9.2200e-003**		**135.8356**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	4.2492	9.5000e-004	4.2502	0.4261	9.0000e-004	0.4270		92.7906	92.7906	7.9900e-003		92.9903
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	0.0197	0.0133	0.1472	4.3000e-004	8.5154	3.4000e-004	8.5158	0.8551	3.1000e-004	0.8554		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0295**	**0.3830**	**0.2210**	**1.2900e-003**	**12.7647**	**1.2900e-003**	**12.7659**	**1.2811**	**1.2100e-003**	**1.2823**		**135.6052**	**135.6052**	**9.2200e-003**		**135.8356**

3.9 Yarnell Debris Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	14.6625	3.4000e-004	14.6628	1.4696	3.1000e-004	1.4699		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**14.6625**	**3.4000e-004**	**14.6628**	**1.4696**	**3.1000e-004**	**1.4699**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.9 Yarnell Debris Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	8.9919	3.4000e-004	8.9922	0.9025	3.1000e-004	0.9028		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**8.9919**	**3.4000e-004**	**8.9922**	**0.9025**	**3.1000e-004**	**0.9028**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	1.7746	3.4000e-004	1.7750	0.1844	3.1000e-004	0.1847		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**1.7746**	**3.4000e-004**	**1.7750**	**0.1844**	**3.1000e-004**	**0.1847**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	1.1036	3.4000e-004	1.1039	0.1173	3.1000e-004	0.1176		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**1.1036**	**3.4000e-004**	**1.1039**	**0.1173**	**3.1000e-004**	**0.1176**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.11 San Fernando Creek - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	1.9211	4.7000e-004	1.9215	0.1931	4.5000e-004	0.1936		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	15.3127	6.8000e-004	15.3134	1.5418	6.2000e-004	1.5424		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**17.2338**	**1.1500e-003**	**17.2349**	**1.7349**	**1.0700e-003**	**1.7360**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.11 San Fernando Creek - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	1.1792	4.7000e-004	1.1797	0.1189	4.5000e-004	0.1194		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	9.4072	6.8000e-004	9.4079	0.9513	6.2000e-004	0.9519		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**10.5864**	**1.1500e-003**	**10.5876**	**1.0702**	**1.0700e-003**	**1.0713**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.12 Lower San Fernando Detention Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837		451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**		**451.1528**	**451.1528**	**0.1459**		**454.8006**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	5.9264	3.4000e-004	5.9268	0.5984	3.1000e-004	0.5987		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**5.9264**	**3.4000e-004**	**5.9268**	**0.5984**	**3.1000e-004**	**0.5987**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.12 Lower San Fernando Detention Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837	0.0000	451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**	**0.0000**	**451.1528**	**451.1528**	**0.1459**		**454.8006**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	3.6448	3.4000e-004	3.6451	0.3702	3.1000e-004	0.3705		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**3.6448**	**3.4000e-004**	**3.6451**	**0.3702**	**3.1000e-004**	**0.3705**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544		872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**6.3300e-003**	**0.2765**	**0.2828**	**9.6000e-004**	**0.2544**	**0.2553**		**872.9622**	**872.9622**	**0.2823**		**880.0205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	1.0385	4.7000e-004	1.0389	0.1051	4.5000e-004	0.1055		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	8.3930	6.8000e-004	8.3937	0.8518	6.2000e-004	0.8524		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**9.4315**	**1.1500e-003**	**9.4326**	**0.9569**	**1.0700e-003**	**0.9579**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.13 Bull Creek Extension (Sediment Basin) - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544	0.0000	872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**2.8500e-003**	**0.2765**	**0.2793**	**4.3000e-004**	**0.2544**	**0.2548**	**0.0000**	**872.9622**	**872.9622**	**0.2823**		**880.0205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8700e-003	0.1848	0.0369	4.3000e-004	0.6390	4.7000e-004	0.6395	0.0651	4.5000e-004	0.0656		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	5.1718	6.8000e-004	5.1725	0.5297	6.2000e-004	0.5303		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**5.8109**	**1.1500e-003**	**5.8120**	**0.5948**	**1.0700e-003**	**0.5959**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.14 Upper Northeast Drainage - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010		453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**		**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	0.0175	9.5000e-004	0.0184	4.8000e-003	9.0000e-004	5.7000e-003		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**0.1069**	**1.6300e-003**	**0.1085**	**0.0285**	**1.5200e-003**	**0.0300**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.14 Upper Northeast Drainage - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010	0.0000	453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**	**0.0000**	**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	0.0175	9.5000e-004	0.0184	4.8000e-003	9.0000e-004	5.7000e-003		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**0.1069**	**1.6300e-003**	**0.1085**	**0.0285**	**1.5200e-003**	**0.0300**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.15 LAR North Dike Stormwater Basin - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0286	0.0000	0.0286	4.3300e-003	0.0000	4.3300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0286**	**0.1974**	**0.2261**	**4.3300e-003**	**0.1816**	**0.1860**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.9000e-003	0.1479	0.0295	3.4000e-004	2.5136	3.8000e-004	2.5140	0.2519	3.6000e-004	0.2522		37.1163	37.1163	3.2000e-003		37.1961
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	0.0395	0.0266	0.2945	8.6000e-004	25.1732	6.8000e-004	25.1739	2.5251	6.2000e-004	2.5257		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0434**	**0.1745**	**0.3240**	**1.2000e-003**	**27.6868**	**1.0600e-003**	**27.6879**	**2.7770**	**9.8000e-004**	**2.7780**		**122.7455**	**122.7455**	**5.6600e-003**		**122.8867**

3.15 LAR North Dike Stormwater Basin - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0129	0.0000	0.0129	1.9500e-003	0.0000	1.9500e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0129**	**0.1974**	**0.2103**	**1.9500e-003**	**0.1816**	**0.1836**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.9000e-003	0.1479	0.0295	3.4000e-004	1.5412	3.8000e-004	1.5416	0.1546	3.6000e-004	0.1550		37.1163	37.1163	3.2000e-003		37.1961
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	0.0395	0.0266	0.2945	8.6000e-004	15.4426	6.8000e-004	15.4432	1.5521	6.2000e-004	1.5527		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0434**	**0.1745**	**0.3240**	**1.2000e-003**	**16.9838**	**1.0600e-003**	**16.9849**	**1.7067**	**9.8000e-004**	**1.7077**		**122.7455**	**122.7455**	**5.6600e-003**		**122.8867**

3.16 East Channel - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	0.4962	3.2000e-004	0.4965	0.0505	3.0000e-004	0.0508		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	5.9711	6.8000e-004	5.9718	0.6103	6.2000e-004	0.6109		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**6.4673**	**1.0000e-003**	**6.4683**	**0.6608**	**9.2000e-004**	**0.6617**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.16 East Channel - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	0.3060	3.2000e-004	0.3063	0.0315	3.0000e-004	0.0318		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	3.6895	6.8000e-004	3.6902	0.3821	6.2000e-004	0.3827		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**3.9954**	**1.0000e-003**	**3.9964**	**0.4136**	**9.2000e-004**	**0.4145**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Report

38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

October 14, 2019 10649-33

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

Subject: Biological Technical Letter Report for the Van Norman Complex Routine Operation and Maintenance Program, City of Los Angeles, Los Angeles County, California

Dear Mr. Lopez:

This biological technical letter report describes the existing biological conditions of the proposed Van Norman Complex (VNC) Routine Operation and Maintenance Program (project), and provides an assessment of potential biological impacts. The proposed project and potential impacts to special-status biological resources are analyzed in the context of the California Environmental Quality Act (CEQA). This report describes the project site, surveys conducted, special-status biological resources present or potentially present on site, potential impacts of the project on special-status biological resources, and recommended mitigation measures.

1 Project Location and Description

The Los Angeles Department of Water and Power (LADWP) owns and operates the VNC, a 1,340-acre industrial complex located in the Granada Hills area of the City of Los Angeles, approximately 20 miles northwest of downtown Los Angeles (Figure 1, Project Location). More specifically, the VNC is immediately northwest of the Interstate 5/Interstate 405 interchange. The VNC occurs within the U.S. Geological Survey 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West, and Sections 29–32 Township 3 North, Range 15 West (Assessor's Parcel Numbers 260-500-1808, 260-500-1807, 260-500-1918, 260-500-1910, and 260-500-1909).

The VNC consists of existing facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. LADWP is proposing ongoing vegetation management and maintenance activities of several existing facilities throughout the VNC to ensure that these facilities are functioning properly. The study area consists of the proposed maintenance work areas within the facilities and a 500-foot buffer around the work area (Figure 2, Project Site). The facilities consist of the following:

- Upper Debris Basin
- Middle Debris Basin
- Bee Drainage Channel
- San Fernando Gate Drain
- Upper San Fernando Drain Line

- Upper San Fernando Drain Line Features 1 and 2
- Yarnell Debris Basin
- Bull Creek Extension Channel
- Los Angeles Reservoir (LAR) Ultraviolet (UV) Plant Drainage and V-Ditch
- Upper Northeast Drainage
- San Fernando Creek
- Lower San Fernando Detention Basin
- LAR North Dike Stormwater Basin
- East Channel

2 Methods

This section describes the methods of field surveys, identifies limitations, and defines special-status plant and wildlife species for purposes of this report. Data regarding biological resources present in the study area were obtained through a review of pertinent literature, field reconnaissance, and focused biological surveys, which are described in detail below.

2.1 Special-Status and/or Regulated Resources

For this report, "special-status" species are those that are (1) listed, proposed for listing, or candidates for listing under the federal Endangered Species Act as threatened or endangered; (2) listed or candidates for listing under the California Endangered Species Act as threatened or endangered; (3) a state fully protected species; (4) a California Department of Fish and Wildlife (CDFW) Species of Special Concern; (5) a species listed on the California Native Plant Society Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1B or 2B; and/or (6) a locally recognized species within the City of Los Angeles CEQA Thresholds Guide (City-designated) (City of Los Angeles 2006).

Special-status vegetation communities are those communities identified as high priority for inventory in the List of Vegetation Alliances and Associations (CDFG 2010) by a state rarity ranking of S1, S2, or S3. In addition, communities that are regulated by CDFW under California Fish and Game Code Sections 1600–1616, and/or that provide suitable habitat for special-status species may also be considered special status under CEQA. Areas regulated by CDFW under California Fish and Game Code Sections 1600–1616 are discussed under separate cover.

2.2 Literature Review

Special-status biological resources present or potentially present within the study area were identified through a literature search using the following sources: Los Angeles County GIS Data Portal (County of Los Angeles 2014); U.S. Department of Agriculture's Natural Resources Conservation Service Soil Survey of Santa Monica Mountains National Recreation Area (USDA 2006); U.S. Department of Agriculture's Soil Conservation Service and West Los Angeles County Resource Conservation District soils information (USDA et al. 1980); U.S. Fish and Wildlife Service's (USFWS) Critical Habitat and Occurrence Data (USFWS 2018); CDFW's California Natural Diversity Database (CDFW 2018); and the California Native Plant Society's online Inventory of Rare, Threatened, and Endangered Plants (CNPS

2018). Searches were completed for the following U.S. Geological Survey quadrangles: San Fernando, Newhall, Mint Canyon, Agua Dulce, Oat Mountain, Sunland, Canoga Park, Van Nuys, and Burbank. Biological technical letter reports have been completed for other projects within the VNC site, including for the LAR UV Plant and the VNC Corrosion Control Station projects. Results of LAR UV and VNC Corrosion Control Station projects' special-status species focused surveys completed in 2017 were reviewed, and vegetation mapping data were incorporated, where applicable (Dudek 2017a, 2017b).

2.3 Field Surveys

Dudek conducted several biological surveys from May through July 2018, including general plant and wildlife surveys, vegetation mapping, habitat assessment for special-status species, and focused surveys for special-status/regulated species. Protocol-level presence/absence surveys were conducted for the following listed species: coastal California gnatcatcher (*Polioptila californica californica*) (CAGN), least Bell's vireo (*Vireo bellii pusillus*) (LBVI), and southwestern willow flycatcher (*Empidonax traillii extimus*) (SWFL). Details of each survey are provided below.

2.3.1 General Reconnaissance Survey

The purpose of the reconnaissance survey was to map vegetation communities occurring within the study area and to determine the presence and 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. Survey conditions during field visits were suitable for determining potential biological resources and viewing special-status plant and wildlife species (see Table 1, Reconnaissance Survey Details and Conditions).

Table 1. Reconnaissance Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/2/2018	0815–1500	TKP	General biological survey, vegetation mapping, and habitat assessments	N/A	59°F–65°F; 3–5 mph winds; 95%–100% cc
5/3/2018	1300–1645	TKP	General biological survey	N/A	77°F; 3–5 mph winds; 1%–5% cc
8/7/2018	0800–1540	BAS, TKP	Vegetation mapping	N/A	82°F–101°F; 1–2 mph winds; 0% cc

Personnel: TKP = Tracy K. Park; BAS = Britney A. Strittmater
Notes: N/A = not applicable; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover.

The study area was methodically surveyed on foot to ensure 100% visual coverage for special-status plant and wildlife species, and all resources were identified and inventoried during the field surveys. Biologist Tracy K. Park surveyed all suitable habitat for potential special-status species.

Vegetation communities and land uses within the study area were mapped in the field directly onto a 200-scale (1 inch = 200 feet) color digital orthographic map. Following completion of the fieldwork, all vegetation polygons were digitized using ArcGIS software, and GIS coverage was created. Natural vegetation communities were mapped in the field using CDFW's List of Vegetation Alliances and Associations (or Natural Communities List) (CDFG 2010),

which is based on A Manual of California Vegetation (Sawyer et al. 2009), where feasible, with modifications to accommodate the lack of conformity of the observed communities. Land cover types were described in accordance with the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Dudek GIS specialist Spenser Lucarelli mapped biological resources into GIS and provided figures using ArcGIS software.

Vegetation communities were also mapped within the entire VNC site and a 100-foot buffer around the VNC. This vegetation mapping was conducted through a combination of desktop mapping using aerial photographs and the vegetation mapping completed for the study area, and a field visit to ground-truth the desktop mapping.

Flora and Fauna

Latin and common names for plant species with a CRPR follow the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2018). 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 2018), and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2018). Latin and common names of animals follow Crother (2012) for reptiles and amphibians, the American Ornithological Society for birds (AOU 2015), Wilson and Reeder (2005) for mammals, the North American Butterfly Association for butterflies (NABA 2001), and Moyle (2002) for fish.

Survey Limitations

The surveys were conducted during the spring and summer seasons, which resulted in detection and identification of most plant species with potential to occur in the study area. Vegetation mapping was restricted within the northern portion of the VNC site due to access issues (e.g., locked gates/fencing), and this area was mapped using binoculars. Direct observation of mammal species was limited because the survey was conducted during the daytime when many of the species potentially occurring are inactive (e.g., small rodents). Therefore, identification of mammals primarily relied on detection of surface sign such as scat, burrows, and tracks.

2.3.2 Coastal California Gnatcatcher Focused Surveys

A presence/absence focused survey for the federally listed as threatened and state Species of Special Concern CAGN was conducted for the project, and the focused survey report is provided in Attachment A, Focused Survey Reports. Methods and results of this survey are summarized herein. Surveys for CAGN were conducted from May 25 through June 29, 2018, as shown in Table 2. The survey area for CAGN totaled approximately 80 acres and consisted of suitable coastal scrub habitat within the study area (CAGN survey area), as depicted in Figures 3A, 3B, and 3C, CAGN Survey Area and Routes.

Table 2. Coastal California Gnatcatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/25/2018	0600–1200	JDP	CAGN focused survey	1	56°F–70°F; 0–4 mph winds; 90%–100% cc
6/1/2018	0600–1200	JDP	CAGN focused survey	2	58°F–76°F; 0–4 mph winds; 0% cc

Table 2. Coastal California Gnatcatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
6/8/2018	0600–1200	JDP	CAGN focused survey	3	57°F–85°F; 0–5 mph winds; 0% cc
6/15/2018	0600–1200	JDP	CAGN focused survey	4	58°F–83°F; 0–5 mph winds; 50% cc
6/22/2018	0600–1200	JDP	CAGN focused survey	5	63°F–85°F; 0–5 mph winds; 0%–100% cc
6/29/2018	0600–1200	JDP	CAGN focused survey	6	57°F–75°F; 0–5 mph winds; 10%–100% cc

Personnel: JDP = Jeff D. Priest
Notes: CAGN = coastal California gnatcatcher; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover

The survey was conducted following the currently accepted USFWS Presence/Absence Survey Protocol (USFWS 1997). The survey consisted of six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80 acres of suitable habitat was surveyed by a single biologist during each site visit. This allowed for complete audible and visual coverage of all suitable CAGN habitat within the CAGN survey area. Survey routes completely covered the CAGN survey area.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the study area was carried during the survey. Additionally, digital mobile maps were used during the surveys to assist in navigating the CAGN survey area. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10×50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment. All other avian species detected during surveys were recorded.

Survey Limitations

Due to refinement of the work areas after focused surveys had been initiated, not all habitat suitable for CAGN within the study area was included in the focused surveys; however, due to the similarity of habitat throughout the project site and the adjacency of areas not surveyed to areas surveyed, the results of the survey are assumed to be valid for all suitable habitat within the project site.

2.3.3 Least Bell's Vireo and Southwestern Willow Flycatcher Focused Surveys

Focused protocol surveys were conducted for the federally listed and state-listed endangered LBVI and SWFL. The focused survey report is provided in Attachment A, and methods and results of this survey are summarized herein. The survey area included suitable riparian habitat within the study area (LBVI/SWFL survey area), as shown in Figures 4A, 4B, and 4C, LBVI/SWFL Survey Area and Routes. These areas were composed of patches of riparian habitat generally associated with sediment within concrete V-ditches, earthen-bottomed channels, stream banks,

and catch basins. Approximately 32.3 acres of suitable habitat occurs within the study area. The LBVI/SWFL survey area was surveyed eight times for LBVI and five times for SWFL (Table 3).

Table 3. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/18/2018	0610–1145	TKP	LBVI focused survey	LBVI 1	58°F–63°F; 0–3 mph winds; 75%–99% cc
5/30/2018	0615–1110	BO	SWFL focused survey	SWFL 1	55°F–57°F; 0–1 mph winds; 100% cc
5/30/2018	0615–1110	BO	LBVI focused survey	LBVI 2	55°F–57°F; 0–1 mph winds; 100% cc
6/8/2018	0600–1100	TKP	LBVI focused survey	LBVI 3	60°F–78°F; 0–3 mph winds; 0% cc
6/8/2018	0630–1100	PL	LBVI focused survey	LBVI 3	60°F–82°F; 0–3 mph winds; 0% cc
6/8/2018	0630–1100	PL	SWFL focused survey	SWFL 2	60°F–82°F; 0–3 mph winds; 0% cc
6/18/2018	0600–1025	TKP	LBVI focused survey	LBVI 4	62°F–73°F; 0–4 mph winds; 2%–3% cc
6/18/2018	0600–1100	JDP	LBVI focused survey	LBVI 4	58°F–72°F; 0–6 mph winds; 0% cc
6/18/2018	0600–1100	JDP	SWFL focused survey	SWFL 3	58°F–72°F; 0–6 mph winds; 0% cc
6/29/2018	0630–1100	TKP	LBVI focused survey	LBVI 5	65°F–75°F; 0–5 mph winds; 40%–100% cc
6/292018	0707–0738	MB	LBVI focused survey	LBVI 5	62°F; 0–1 mph winds; 100% cc
6/292018	0625–0942	MB	SWFL focused survey	SWFL 4	62°F–66°F; 0–1 mph winds; 100% cc
7/10/2018	0615–1055	TKP	LBVI focused survey	LBVI 6	78°F–86°F; 1–3 mph winds; 70%–80% cc
7/10/2018	0545–0945	JDP	LBVI focused survey	LBVI 6	74°F–80°F; 0–4 mph winds; 70%–80% cc
7/10/2018	0545–0945	JDP	SWFL focused survey	SWFL 5	74°F–80°F; 0–4 mph winds; 70%–80% cc
7/20/2018	0555–1100	TKP	LBVI focused survey	LBVI 7	69°F–85°F; 0–1 mph winds; 5% cc
7/30/2018	0603–1100	TKP	LBVI focused survey	LBVI 8	74°F–94°F; 0–1 mph winds; 20%–70% cc

Personnel: TKP = Tracy K. Park; BO = Brock Ortega; PL = Paul Lemons; JDP = Jeff D. Priest; MB = Melissa Blundell
Notes: LBVI = least Bell's vireo; SWFL = southwestern willow flycatcher; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover

Permitted wildlife biologists Brock Ortega (TE813545-7), Paul Lemons (TE051248-5), Jeff Priest (TE840619-6), and Melissa Blundell (TE840619-6) conducted SWFL/LBVI presence/absence surveys, and qualified biologist Tracy Park conducted LBVI surveys. Focused surveys for these species were initiated on May 18, 2018. Surveys for SWFL were completed on July 10, 2018, and surveys for LBVI were completed on July 30, 2018.

All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat in the LBVI/SWFL survey area. The perimeter was also surveyed. This route was arranged to cover all suitable habitat within the LBVI/SWFL survey area (Figures 4A, 4B, and 4C). A vegetation map (1:2,400 scale; 1 inch = 200 feet) of the LBVI/SWFL survey area was available to record any detected LBVI or SWFL. Binoculars (e.g., 10×42, 10×50 magnification) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for SWFL followed the currently accepted protocol (A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on SWFL. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 25 through July 17) were separated by at least 5 days. Recorded SWFL vocalizations were used approximately every 50 to 100 feet within suitable habitat to induce SWFL responses. If SWFL were detected, the recorded playback ceased immediately to avoid harassment.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for LBVI. The eight surveys for LBVI followed the currently accepted Least Bell's Vireo Survey Guidelines (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential LBVI habitat between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Recorded playback of LBVI vocalizations was not used during the surveys. Surveys were conducted between dawn and noon, and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Weather conditions, time of day, and season were appropriate for the detection of SWFL and LBVI (see Table 3). All other avian species detected during surveys were recorded.

3 Results

3.1 Site Description

The project site is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Site elevations range from approximately 1,032 feet above mean sea level in the southern portion of the VNC to approximately 1,270 feet above mean sea level along the northern portion of the site. Distinctive geographic features include the LAR at the center of the VNC. The VNC is bordered by major highways to the east, north, and south. Residential, commercial, and industrial development borders the VNC to the southwest and west.

The study area occurs throughout sections of the VNC that include a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation that occurs along proposed project work areas. The proposed project work areas occur within or around channels, drainages, and catch basins, where accumulating sediment or overgrown vegetation limits proper functioning of project facilities. The surrounding area is dominated by disturbed and developed land associated with ongoing utility operations at the VNC.

3.2 Vegetation Communities and Land Covers

Twenty-seven vegetation communities and land covers were identified within the study area: Fremont cottonwood forest alliance, Fremont cottonwood and sandbar willow association, arroyo willow thickets, arroyo willow and mulefat thickets association, sandbar willow thickets, mulefat scrub thickets, mulefat scrub–blue elderberry association, red willow thickets, red willow–arroyo willow association, red willow–arroyo willow and mulefat thickets association, cattail marshes, water sedge and lakeshore sedge meadows, brittle bush scrub, disturbed brittle bush scrub, California buckwheat scrub, coyote brush scrub, California sagebrush scrub, non-native grassland, eucalyptus groves semi-natural stands alliance, upland mustard semi-natural stands alliance, giant reed breaks semi-natural stands, disturbed habitat, concrete-lined channel, unvegetated drainage, open water, parks and ornamental plantings, and urban/developed land. These vegetation communities and land cover types are described below, and their spatial distributions are presented in Figures 5A through 5E, Biological Resources. Table 4 summarizes the extent of each vegetation community or land cover within the study area. Photo documentation of the project site is provided in Attachment B, Site Photographs.

Table 4. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover (State Rank)	Map Code	Study Area (acres)
Riparian Forest and Woodland Alliances and Stands		
Black willow thickets (S 3)	BWT	3.48
Fremont cottonwood forest[a] (S 3.2)	FCF	4.25
Fremont cottonwood/sandbar willow association[a] (S 3.2)	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		*7.88*
Riparian Thickets Alliances and Stands		
Arroyo willow thickets (S 4)	AWT	1.05
Arroyo willow/mulefat thickets (S 4)	AWT/MFT	0.82
Sandbar willow thickets (S 4.2)	SWT	1.09
Mulefat scrub thickets (S 4)	MFT	3.45
Disturbed mulefat thickets (S 4)	D- MFT	0.93
Red willow thickets[a] (S 3)	RWT	6.06
Red willow–arroyo willow association (S 3)	RWT-AWT	0.78
Red willow–arroyo willow/mulefat thickets association (S3)	RWT-AWT/MFT	9.69
Smartweed patches (not ranked)	SMW	1.68
Cattail marshes (S 5)	CM	4.91
Water sedge and lakeshore sedge meadows (S 3)	Meadow	0.04
Subtotal Riparian Alliances and Stands[b]		*30.5*

Table 4. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover (State Rank)	Map Code	Study Area (acres)
Upland Shrubland Alliances and Stands		
Bladderpod spiderflower (not ranked)	BP	1.22
Blue elderberry (S 3)	BES	4.39
Disturbed blue elderberry	D-BES	3.51
Brittle bush scrub (S 4)	BBS	74.59
Disturbed brittle brush scrub (S 4)	D-BBS	0.28
Brittle bush scrub–California sagebrush scrub association (S 4)	BBS-CSS	2.16
California buckwheat scrub (S 5)	CBS	0.31
Coyote brush scrub (S 5)	CS	4.67
California sagebrush scrub (S 5)	CSS	2.32
California sagebrush scrub–black sage scrub (S 4)	CSS-BSS	0.0
California sagebrush scrub–California buckwheat scrub	CSS-CBS	0.0
Subtotal Upland Shrubland Alliances and Stands[b]		*93.45*
Non-Natural Land Covers/Unvegetated Communities		
Basin (not ranked)	BAS	9.47
Non-native grassland (not ranked)	NNG	65.50
Eucalyptus groves (semi-natural stands)[c] (not ranked)	EUC	0.48
Upland mustards (semi-natural stands)[c] (not ranked)	UM (SNS)	82.98
Giant reed breaks (semi-natural stands)[c] (not ranked)	GRB	0.40
Parks and ornamental plantings (not ranked)	ORN	11.55
Disturbed habitat (not ranked)	DH	122.96
Unvegetated drainage (not ranked)	UD	4.98
Concrete-lined channel (not ranked)	CC	12.01
Open water (not ranked)	OW	33.64
Urban/developed (not ranked)	DEV	277.64
Subtotal Non-natural Land Covers/Unvegetated Communities[b]		*621.61*
Total[b]		**753.44**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3).
[b] Totals may not sum due to rounding.
[c] The term "semi-natural stands" versus alliance is used in the *Manual of California Vegetation* to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

3.2.1 Riparian and Marsh Vegetation Communities

Black Willow Thickets Woodland Alliance

Black willow thickets is a native plant community dominated by black willow (*Salix gooddingii*) in an open to continuous tree canopy less than 98 feet in height. This vegetation community typically occurs along large rivers and canyons, and smaller intermittent streams, seeps, and springs (Sawyer et al. 2009).

A patch of black willow thickets occurs within the Lower San Fernando Detention Basin within the buffer portion of the study area. Additionally, this community is found within the northern portion of the study area within two of the the backwash water reclamation ponds located west of the Upper San Fernando Drain Line. The understory of the black willow thickets within the Lower San Fernando Detention Basin consists of a low cover of mulefat (*Baccharis salicifolia*) and southern cattail (*Typha domingensis*). Within the northern reclamation ponds west of the Upper San Fernando Drain Line, vegetation includes young herbaceous growth and is a result of recent germination upon receding of previous inundation. This vegetation consist of black willow with a low cover of mulefat, Fremont cottonwood (*Populus fremontii*), and saltcedar (*Tamarix ramosissima*).

Fremont Cottonwood Forest Alliance

Fremont cottonwood forest alliance is dominated or co-dominated by Fremont cottonwood. Fremont cottonwood forest typically occurs on floodplains, intermittent streams, springs, lower desert canyons, alluvial fans, and valleys with a variable sub-surface water supply (Sawyer et al. 2009).

Within the study area, this vegetation occurs within the Lower San Fernando Detention Basin and the Upper Northeast Drainage. The understory of the Fremont cottonwood forest vegetation within the Lower San Fernando Detention Basin consists of a low cover of mulefat; stinging nettle (*Urtica dioica*); tall flatsedge (*Cyperus eragrostis*); and a variety of non-native herbaceous species, including Russian thistle (*Salsola tragus*), castorbean (*Ricinus communis*), sacred thorn-apple (*Datura wrightii*), tree tobacco (*Nicotiana glauca*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), horehound (*Marrubium vulgare*), poison hemlock (*Conium maculatum*), yellow sweetclover (*Melilotus albus*), prickly lettuce (*Lactuca serriola*), common sowthistle (*Sonchus oleraceus*), and London rocket (*Sisymbrium irio*).

Within the Upper Northeast Drainage, the understory consists of arroyo willow (*Salix lasiolepis*) and Mexican fan palm (*Washingtonia robusta*).

Fremont Cottonwood/Sandbar Willow Association

Fremont cottonwood forest/sandbar willow association is one of 20 associations within the Fremont cottonwood forest alliance, and is co-dominated by Fremont cottonwood and sandbar willow (*Salix exigua*) (CDFG 2010).

Within the study area, Fremont cottonwood forest/sandbar willow association occurs within the LAR UV Plant Drainage and V-Ditch, where the concrete V-ditch becomes earthen-bottomed. The understory consists of a low cover of mulefat, southern cattail, red brome (*Bromus madritensis* ssp. *rubens*), London rocket, shortpod mustard, and redstem stork's bill (*Erodium cicutarium*). An ornamental Jerusalem thorn (*Parkinsonia aculeata*) is also found along the LAR UV Plant Drainage and V-Ditch.

Arroyo Willow Thickets

Arroyo willow thickets are dominated by arroyo willow in the tall shrub or low tree canopy, and occur on stream banks and benches, slope seeps, and stringers along drainages (Sawyer et al. 2009).

Within the study area, arroyo willow thickets are found within the Lower San Fernando Detention Basin, Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 2, Upper Northeast Drainage, and the LAR UV Plant Drainage and V-Ditch. Other plants observed within this vegetation community in low cover include mulefat, redstem stork's bill, and red brome.

Arroyo Willow/Mulefat Thickets Association

Arroyo willow/mulefat thickets association is one of eight associations within the arroyo willow alliance, dominated by arroyo willow and mulefat (CDFG 2010).

A small patch of arroyo willow/mulefat thickets association occurs within a small portion of the concrete V-ditch that supports sediment located within the LAR UV Plant Drainage and V-Ditch. On site, this association is composed of arroyo willow and a few mulefat stands, but also consists of a low cover of southern cattail, eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), and red brome.

Sandbar Willow Thickets

Sandbar willow thickets is dominated or co-dominated by sandbar willow. Sandbar willow thickets typically occur on temporarily flooded floodplains, along rivers and streams, and at springs (Sawyer et al. 2009).

Within the study area, this vegetation community occurs within the Upper and Middle Debris Basins, and a small patch occurs within the Lower San Fernando Detention Basin. In the study area, this association is dominated by sandbar willow, but also consists of a low cover of mulefat, arroyo willow, and red brome.

Mulefat Scrub Thickets

Mulefat scrub is a dense, shrubby plant community dominated by mulefat with a two-tiered canopy less than 2 meters (7 feet) tall and 5 meters (16 feet) tall, which typically occurs in riparian habitats, edges of catchment basins, and in canyons (Sawyer et al. 2009).

Mulefat scrub thickets occur within the Upper and Middle Debris Basins, Lower San Fernando Detention Basin, and LAR UV Plant Drainage and V-Ditch. Other plants observed in low cover include flatspine bur ragweed (*Ambrosia acanthicarpa*), lambsquarters (*Chenopodium album*), shortpod mustard, tree tobacco, castorbean, and Russian thistle. Disturbed mulefat scrub thickets occur on hillsides within the buffer of the study area outside of potential work areas, and are composed of mulefat with a high cover of non-native species such as Russian prickly thistle, black mustard, and red brome.

Red Willow Thickets

Red willow thickets alliance is dominated by red willow (*Salix laevigata*), and typically occurs within ditches, floodplains, and lake edges, and along low-gradient stream banks (Sawyer et al. 2009).

In the study area, red willow thickets occur within the Upper San Fernando Drain Line, Lower San Fernando Detention Basin, and San Fernando Creek. Other plants observed in the understory and outer edges include yellow sweetclover, annual rabbitsfoot grass (*Polypogon monspeliensis*), seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*), common tarweed (*Centromadia pungens* ssp. *pungens*), petty spurge (*Euphorbia peplus*), spiny sowthistle (*Sonchus asper* ssp. *asper*), shortpod mustard, Russian thistle, castorbean, red brome, Maltese star-thistle (*Centaurea melitensis*), chaparral nightshade (*Solanum xanti*), and southern crabgrass (*Digitaria ciliaris* var. *ciliaris*).

Red Willow–Arroyo Willow Association

Red willow–arroyo willow association is dominated by red willow and co-dominated by arroyo willow.

Within the study area, red willow–arroyo willow thickets occur within San Fernando Creek. The understory includes castorbean and cattails (*Typha* sp.).

Red Willow–Arroyo Willow/Mulefat Thickets Association

Red willow–arroyo willow and mulefat thickets association is dominated by red willow and co-dominated by arroyo willow, with mulefat thickets co-dominant in the understory.

Within the study area, this association occurs within the Middle Debris Basin, Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 1, and the Yarnell Debris Basin. This association is co-dominated by red willow, arroyo willow, and mulefat, and its understory includes common sunflower (*Helianthus annuus*), yellow sweetclover, castorbean, and southern crabgrass (*Digitaria ciliaris*).

Smartweed Patches

Smartweed patches is dominated or co-dominated by smartweed (*Persicaria lapathifolia* [*Polygonum lapathifolium]*) and/or cocklebur (*Xanthium strumarium*). This vegetation community typically occurs within marshes, regularly disturbed vernally wet ponds, fields, and stream terraces in clay-rich or silty soils (Sawyer et al. 2009).

Within the study area, smartweed patches occur within the Yarnell Debris Basin, in areas that were previously inundated during the early summer. Alkali mallow (*Malvella leprosa*), seaside heliotrope, and narrowleaf plantain (*Plantago lanceolata*) also grow within this vegetation community.

Cattail Marshes

Cattail marshes alliance is dominated or co-dominated by cattail marshes and occurs within semi-permanently inundated areas.

Within the study area, patches of cattail marshes occur within the Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 1, LAR North Dike Stormwater Basin, and the Lower San Fernando Detention Basin.

Other species prevalent within this vegetation community include mulefat, California bulrush (*Schoenoplectus californicus*), and pale spikerush (*Eleocharis macrostachya*). Small patches of cattails grow in various concrete-lined channels throughout the project site that are regularly maintained and experience high-velocity flows. These patches of cattails are small in size and occur variably depending on levels of disturbance within the concrete-lined channels; therefore, they are mapped within the concrete-lined channel mapping unit.

Water Sedge and Lakeshore Sedge Meadows

Water sedge and lakeshore sedge meadows alliance is dominated by sedges (*Carex* spp.). This vegetation community typically occurs within semi-permanently flooded freshwater or brackish marshes (Sawyer et al. 2009).

A small patch of water sedge and lakeshore sedge meadows vegetation community occurs southwest of the LAR North Dike Stormwater Basin within the buffer portion of the study area. This vegetation community is limited and supports a small number of sedges and pale spikerush.

3.2.2 Upland Vegetation Communities

Bladderpod Spiderflower Scrub

Bladderpod spiderflower scrub (*Peritoma arborea*) is not recognized as an alliance by A Manual of California Vegetation (Sawyer et al. 2009) or the List of California Vegetation Alliances and Associations (CDFG 2010). However, both recognize narrowleaf goldensbush–bladderpod scrub alliance (*Ericameria linearifolia–Cleome isomeris*) (CDFG 2010; Sawyer et al. 2009). This alliance is described as a native plant community dominated or co-dominated by bladderpod spiderflower, yellow aster (*Eastwoodia elegans*), and/or narrowleaf goldenbush in the shrub canopy. This vegetation community occurs on dry slopes and ridges where soils are shallow (Sawyer et al. 2009).

Within the study area, bladderpod spiderwort scrub occurs on steep hillsides along the southern extent of the VNC within the buffer portion of the study area, outside of potential work areas. Associated species in this community include California sagebrush, California buckwheat, and brittle bush at low covers.

Blue Elderberry Stands

Blue elderberry stands is a native plant community dominated by blue elderberry (*Sambucus nigra* spp. *caerulea*) in an open to continuous, sometimes two-tiered, shrub canopy less than 26 feet in height. This vegetation community typically occurs on stream terraces, in bottomlands, and sometimes in upland settings (Sawyer et al. 2009).

Blue elderberry stands occur along the Middle Debris Basin. In addition, patches of disturbed blue elderberry stands occur on hillsides south of Bee Drainage Channel. Other plants observed include red brome, shortpod mustard, castorbean, black mustard, and tree tobacco. Disturbed blue elderberry habitat also occurs within the buffer of the study area, outside of potential work areas, and is composed of blue elderberry with a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

Brittle Bush Scrub

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the buffer portion of the study area, outside of potential work areas. Portions of this vegetation community also consists of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Malosma laurina*), orange bush monkeyflower (*Diplacus aurantiacus* var. *puniceus*), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the study area is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer.

Disturbed brittle bush scrub habitat also occurs on site within the buffer portion of the study area and is composed of brittle bush with a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

Brittle Bush Scrub–California Sagebrush Scrub Association

Brittle bush scrub–California sagebrush association is similar to the brittle bush alliance described above; however, it is co-dominated by brittle bush and California sagebrush.

This association occurs in one patch within the western buffer portion of the study area, outside of the potential work areas, and is co-dominated by brittle bush and California sagebrush. In consists of a low cover of California buckwheat and an understory composed of shortpod mustard and red brome.

California Buckwheat Scrub

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse, well-drained soils (Sawyer et al. 2009).

Within the study area, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard.

Coyote Brush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Coyote brush scrub occurs within the buffer portion of the study area along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush in the shrub canopy.

Within the study area, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

California Sagebrush Scrub–Black Sage Scrub

California sagebrush scrub–black sage scrub alliance is a native plant community co-dominated by California sagebrush and black sage in the shrub canopy with an intermittent to continuous shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on steep, east- to southwest-facing slopes, usually with colluvial derived soils (Sawyer et al. 2009).

Within the study area, California sagebrush scrub–black sage scrub occurs in two patches in the western portion of the study area within the buffer, outside of potential work areas. Other associated species present include golden eardrops (*Ehrendorferia chrysantha*), blue elderberry, and California buckwheat at low covers.

California Sagebrush Scrub–California Buckwheat Scrub

California sagebrush–California buckwheat scrub alliance communities include California sagebrush and California buckwheat as co-dominant shrubs in the canopy. California sagebrush–California buckwheat scrub has a two-tiered continuous or intermittent shrub canopy, with most shrubs less than 2 meters (7 feet) in height while others reach up to 5 meters (16 feet) in height. This alliance has a seasonally present herbaceous layer and is found along slopes that are usually south-facing and steep (Sawyer et al. 2009).

Within the study area, California sagebrush scrub–California buckwheat scrub occurs in several patches along the western portion of the study area within the buffer, outside of potential work areas. Other associated species present include brittle bush at a low cover.

3.2.3 Non-Natural Land Cover Types

Land cover types are not vegetation communities; therefore, they are not recognized by A Manual of California Vegetation (Sawyer et al. 2009) or the List of California Vegetation Alliances and Associations (CDFG 2010).

Basin

The basin mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993). Basins are artificial drying ponds that are used to collect stormwater runoff. This land cover type often contains hydrophytic vegetation such as arroyo willow, mulefat, or cattails (Jones & Stokes 1993).

The basins in the study area are located northwest of the LAR within a developed area. These basins are concrete-sided and earthen-bottomed, with small patches of emergent cattails growing along the edges. Levels of inundation within these basins are highly variable due to activities associated with LADWP operations. Over the course of

multiple surveys in 2018, these basins varied between being fully inundated to completely drained. Therefore, hydrophytic vegetation may grow in underlying sediment when water is absent from basins.

Non-Native Grassland

The non-native grassland (also referred to as California annual grassland) mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993), Holland (1986), and CDFW's A Guide to Wildlife Habitats of California (Kie 2005). Non-native grassland is dominated by a dense to sparse cover of introduced annual grasses such as wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome, mouse barley (*Hordeum murinum*), and rat-tail fescue (*Festuca myuros*) (Holland 1986; Kie 2005). This vegetation community typically occurs on flat plains or gently rolling foothills at low elevations (Kie 2005).

Within the study area, non-native annual grasses occur east of the LAR North Dike Stormwater Basin and throughout the upland areas surrounding the Yarnell Debris Basin. This vegetation community within the study area is dominated by bromes (*Bromus* spp.), slender oat (*Avena barbata*), common Mediterranean grass (*Schismus barbatus*), mouse barley, redstem stork's bill, and black mustard. Other herbaceous annuals that occur in low cover include telegraphweed (*Heterotheca grandiflora*), sweet fennel (*Foeniculum vulgare*), Canadian horseweed (*Erigeron canadensis*), and common sunflower.

Eucalyptus Groves Semi-Natural Stands

Eucalyptus groves (semi-natural stands) is a distinct naturalized vegetation type that is planted as groves and windbreaks and naturalized fairly widespread in Southern California. It typically consists of monotypic stands of introduced Australian eucalyptus tree (*Eucalyptus* spp.), where the understory is either depauperate or absent (Holland 1986).

A small patch of eucalyptus grove occurs northwest of the Yarnell Debris Basin.

Upland Mustards Semi-Natural Stands

Upland mustards semi-natural stands consist of herbaceous vegetation dominated by various non-native mustard forbs, mostly annual and biennial species. Most of these species are invasive exotics. These stands are generally of low stature, below 3 meters (10 feet) high; however, black mustard often attains a height of 3 meters (10 feet) (Sawyer et al. 2009).

Multiple mustard species occur within the study area, including black mustard, shortpod mustard, and London rocket. Upland mustards semi-natural stands vegetation community is located throughout most of the study area's open landscape and is indicative of the study area's disturbance history.

Giant Reed Breaks Semi-Natural Stands

Giant reed breaks consist of herbaceous vegetation dominated by giant reed (*Arundo donax*). Giant reed is a naturalized perennial grass that grows in dense stands with a continuous canopy less than 8 meters (26 feet) high within riparian areas (Sawyer et al. 2009). Giant reed is ranked within the California Invasive Plant Council inventory to have an invasive species rank of "high," meaning it is widely distributed geographically, has moderate to high

rates of dispersal and establishment, and has severe ecological impacts on naturally occurring plant and animal communities (Cal-IPC 2018).

Pockets of giant reed breaks occur within riparian vegetation along the Middle Debris Basin and the Upper San Fernando Drain Line.

Parks and Ornamental Plantings

Parks and ornamental plantings land cover identified within the study area is dominated by Peruvian peppertree (*Schinus molle*) and eucalyptus trees, with understory dominated by redstem stork's bill, castorbean, mustards, and various non-native grasses. Within the study area, ornamental plantings occur in the 500-foot buffer surrounding the East Channel, San Fernando Creek, and the LAR North Dike Stormwater Basin.

Disturbed Habitat

The "disturbed" mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993). Disturbed habitat refers to areas that experience or have experienced high levels of human disturbance, and, as a result, are generally lacking vegetation. Areas mapped as disturbed may include unpaved roads and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species such as Maltese star-thistle, wild oat, black mustard, spiny sowthistle, and prickly lettuce (Jones & Stokes 1993).

Within the study area, disturbed land includes dirt roads and bare, open areas with minimal vegetative cover that consists of yellow star-thistle (*Centaurea solstitialis*) and black mustard. This land cover is dominant throughout the study area. This land cover can vary according to annual precipitation cycles and can transition quickly into a non-native grassland or upland mustard community.

Unvegetated Drainage

Unvegetated drainages are earthen-bottomed drainages that lack vegetation. This habitat type refers to the unvegetated ephemeral drainage channels that occur within the Upper Debris Basin, Middle Debris Basin, Bee Drainage Channel, San Fernando Gate Drain, and Upper Northeast Drainage.

Concrete-Lined Channel

Concrete V-ditch or concrete-lined channel is characterized by barren or sparsely vegetated concrete-lined channels. This land cover type occurs throughout much of the project site. In the East Channel, small patches of cattails occur within sediment accumulated along seams in the concrete. As a result of disturbance due to regular maintenance and high-velocity flows associated with LADWP operations, these patches of cattails are removed by maintenance and resprout in areas supporting sediment. Additionally, these patches are below the minimum mapping unit for the vegetation mapping unit and are, therefore, not mapped separately.

Open Water

Open water consists of standing water with no emergent vegetation in the form of lakes, streams, ponds, or rivers (Jones & Stokes 1993). Within the study area, open water occurs within holding ponds, basins, and channels in and surrounding the Yarnell Debris Basin, Lower San Fernando Detention Basin, East Channel, Upper San Fernando Drain Line, and the LAR North Dike Stormwater Basin. Basins and channels containing open water on site are subject to variable levels of inundation due to seasonal weather conditions and activities associated with LADWP operations. Hydrophytic or emergent herbaceous vegetation (e.g., cattail marsh, smartweed patches, and young willows) may grow within areas where open water recedes.

Urban/Developed

Developed land describes areas occupied by structures, paving, and other impermeable surfaces that cannot support vegetation or habitat for wildlife. Within the study area, developed land consists of paved roads, parking lots, and buildings. This land cover type occurs throughout much of the study area.

3.3 Floral Diversity

A total of 69 vascular plant species consisting of 35 native species (51%) and 34 non-native species (49%) were recorded during the reconnaissance biological surveys conducted in May and August 2018. The recorded flora of the study area is composed of a combination of natural vegetation communities and disturbed and built land cover types. A list of the species observed during the May and August 2018 surveys is provided as Attachment C, Plant Compendium.

3.4 Wildlife

A total of 50 wildlife species were recorded in the study area consisting of 44 bird species, 3 mammal species, 2 reptile species, and 1 amphibian species. Birds commonly observed within the study area include song sparrow (*Melospiza melodia*), California towhee (*Melozone crissalis*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Spinus psaltria*), American goldfinch (*Spinus tristis*), killdeer (*Charadrius vociferus*), California quail (*Callipepla californica*), and mourning dove (*Zenaida macroura*). A red-tailed hawk (*Buteo jamaicensis*) was detected soaring overhead, and another individual was perched on a Fremont cottonwood tree during the site visit. Two red-tailed hawk nests were observed on site within the Lower San Fernando Detention Basin (Figures 3A through 3C).

Mammals detected within the study area include coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Spermophilus beecheyi*). Other common mammal species that may occur in the study area include Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Botta's pocket gopher (*Thomomys bottae*).

Reptiles observed within the study area were western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stanburiana*), and amphibian species observed within the study area were western toad (*Anaxyrus boreas*) tadpoles. Other common amphibian and reptile species that may occur include gopher snake (*Pituophis catenifer*) and Baja California tree frog (*Pseudacris hypochondriaca*).

Only one invertebrate species was observed within the study area—Cabbage white butterfly (*Pieris rapae*)—although checkered white butterfly (*Pontia protodice*) is a common species that may also occur. A list of the species observed during the general biological reconnaissance and vegetation mapping survey is provided as Attachment D, Wildlife Compendium.

3.5 Special-Status Plant Species

Special-status plant species identified during the literature review, along with a determination as to their potential to occur within the study area, are provided as Attachment E, Special-Status Plant Species Potential to Occur. No special-status plant species were observed within the study area during general biological reconnaissance surveys. All special-status species identified in the literature review were determined to either have a low potential to occur or were not expected to occur based on an assessment of habitat within the study area.

Three federally listed and/or state-listed plant species have been documented in the project vicinity: Nevin's barberry (*Berberis nevinii*) (federally listed and state-listed as endangered; CRPR 1B.1), San Fernando Valley spineflower (*Chorizanthe parryi* var. f*ernandina*; state-listed as endangered; CRPR 1B.1), and slender-horned spineflower (*Dodecahema leptoceras*; federally listed and state-listed as endangered; CRPR 1B.1). Descriptions of these species and their potential to occur within the study area are provided below.

3.5.1 Federally Listed and/or State-Listed Plant Species

Nevin's barberry is a shrub endemic to California. It occurs in chaparral, foothill woodland, and coastal sage scrub habitats in sandy to gravely soils. Nevin's barberry blooms from April through June. The closest documented occurrence for Nevin's barberry is 3.3 miles southeast of the project site. This occurrence dates back to 1941, and much development has occurred since its collection; therefore, this occurrence is considered extirpated (CDFW 2018). Suitable coastal sage scrub habitat with sandy or gravelly soils is present for this species within the study area; however, this shrub would have been observed during the biological reconnaissance-level field survey conducted in May 2018, if present. Therefore, this species was determined to not occur within the study area.

Slender-horned spineflower is an annual herb that is endemic to California. It is associated with alluvial fans in chaparral and coastal sage scrub habitats. It is typically associated with sandy and/or gravely soils and blooms April through June. The closest documented occurrence for slender-horned spineflower is approximately 2 miles southeast of the project site. This occurrence dates back to 1937, and much development has occurred since its collection; therefore, this occurrence is considered extirpated (CDFW 2018). The site does not support alluvial fans, and therefore does not support suitable habitat for this species. This species was not observed during general biological reconnaissance-level survey conducted in May 2018, which is within this species' blooming period. This species is not expected to occur within the study area.

San Fernando Valley spineflower is an annual herb that was documented within 2 miles of the study area (CDFW 2018). San Fernando Valley spineflower occurs within sandy soils in coastal sage scrub habitat. Its blooming period is April through July. San Fernando Valley spineflower was documented to occur in 1922, immediately south of the project site, but is now likely extirpated (CDFW 2018). Suitable coastal sage scrub habitat with sandy soils is present for this species within the study area; however, this species was not observed during the general biological reconnaissance-level survey conducted in May 2018, which is within this species' blooming period. This species

was also not observed during focused surveys conducted in 2017 for the LAR UV project, which occurs within the subject study area. San Fernando Valley spineflower is not expected to occur within the study area.

3.6 Special-Status Wildlife Species

Special-status wildlife species identified in the literature review, along with their habitat requirements, a determination as to their potential to occur within the study area, and survey observations, are provided as Attachment F, Special-Status Wildlife Species Potential to Occur. Special-status wildlife species potential to occur in the study area was determined based on the results of habitat mapped within the study area and the results of the general biological reconnaissance-level surveys. One special-status species was detected within the study area during the field survey: LBVI (federally listed and state-listed endangered; City-designated species).

Non-listed special-status wildlife species with a moderate or higher potential to occur within the study area include Blainville's horned lizard (*Phrynosoma blainvillii*) (state Species of Special Concern, City-designated species), San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*) (state Species of Special Concern), loggerhead shrike (*Lanius ludovicianus*) (state Species of Special Concern, City-designated species), and Cooper's hawk (*Accipiter cooperii*) (state Watch List species, City-designated species). The state fully protected white tailed kite (*Elanus leucurus*) also has a low potential to occur within the study area.

Federally listed and/or state-listed wildlife species documented in the project vicinity include Swainson's hawk (*Buteo swainsoni*) (state threatened), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (federally threatened, state endangered, City-designated species), CAGN (federally threatened, state Species of Special Concern, City-designated species), LBVI (federally and state endangered, City-designated species), and SWFL (federally and state endangered, City-designated species). Descriptions of the listed species documented in the vicinity and their potential to occur within the study area are provided below.

3.6.1 Federally Listed and/or State-Listed Wildlife Species

Swainson's Hawk

Swainson's hawk has been documented to occur within 5 miles from the study area; however, it is currently known to only occur in the region during migration (CDFW 2018). The closest known nesting area is in Antelope Valley, approximately 25 miles from the project site; thus, this species is not expected to occur within the study area.

Western Yellow-Billed Cuckoo

There is one occurrence record for western yellow-billed cuckoo within 5 miles of the study area (CDFW 2018). However, records of this species date back to 1900, and the species is presumed extirpated from the area (CDFW 2018). Yellow-billed cuckoos nest in extensive stands of riparian habitat, which are absent in the study area; therefore, western yellow-billed cuckoo is not expected to occur within the study area.

Coastal California Gnatcatcher

CAGN has been documented within 1 mile of the project site (CDFW 2018). CAGN is a federally listed threatened species and a CDFW Species of Special Concern. This species is a resident songbird in California that generally

prefers open sage scrub with low-growing, drought-deciduous shrubs, including California sagebrush, California buckwheat, and sages (*Salvia* spp.) as a dominant or co-dominant species (Mock 2004). The typical breeding season for CAGN extends from approximately mid-February through August 30. Although much of the coastal scrub within the study area consists of fragmented, monotypic stands of brittle bush too small in size and too disturbed to support this species, some portions of coastal scrub within the study area could provide suitable habitat for this species. Thus, there is a moderate potential for this species to occur.

Protocol-level presence/absence surveys were completed within the majority of the study area. There were no CAGN or CAGN nests detected within the CAGN survey area. Potentially suitable habitat within the study area and outside of the CAGN survey area is similar to the habitat within the CAGN survey area, consisting primarily of monotypic stands of brittle bush. Additionally, suitable habitat outside of the CAGN survey area is situated adjacent to or in between patches of surveyed habitat. It is unlikely that these areas would be occupied by CAGN since the surrounding surveyed habitat is unoccupied, surveyors were proximate to nearly all of the additional habitat patches, and the habitat patches are composed of monotypic stands of less-than-ideal species. CAGN were absent from the study area; however, CAGN have a low potential to occupy the study area in the future due to the presence of suitable habitat.

Least Bell's Vireo

There are two documented occurrences for LBVI within 1 mile of the project site (CDFW 2018). In addition, one LBVI individual was observed during the reconnaissance-level field surveys conducted in May 2018 within the Lower San Fernando Detention Basin and the Middle Debris Basin. LBVI is a migratory bird species that generally returns to breeding sites in Southern California in mid- to late-March and departs from breeding grounds between late-July and late-September (Kus 2002). LBVI prefer to nest in riparian habitat with early to mid-successional riparian vegetation. Suitable riparian habitat occurs within many of the facilities proposed for maintenance.

Protocol-level presence/absence surveys were completed for the project for LBVI. LBVI were observed within the Middle Debris Basin, Lower San Fernando Detention Basin, LAR North Dike Stormwater Basin, and Yarnell Debris Basin. A total of 21 observations of singing LBVI males were made within the study area. Based on the locations of observations over multiple survey passes, these observations were determined to comprise 16 resident males. Five locations were only observed during a single survey pass and therefore determined to not represent LBVI residents within the study area. Three LBVI males within the Middle Debris Basin were confirmed to be paired based on visual and/or auditory association with an LBVI female. Of these pairs, one was confirmed breeding: an adult LBVI was observed feeding an LBVI fledgling during the seventh survey pass conducted on July 20, 2018. All LBVI detected visually were unbanded individuals.

Overall, three facilities within the study area are considered occupied based on repeated observations of LBVI across survey passes: Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Brown-headed cowbirds (*Molothrus ater*) were detected within all three LBVI-occupied facilities. All LBVI detections are documented in Table 5. LBVI detections and resident LBVI observed use areas are depicted in Figures 5B and 5D.

Table 5. Least Bell's Vireo Survey Results

Survey Pass	Date	Middle Debris Basin	Yarnell Debris Basin	Lower San Fernando Detention Basin	LAR UV North Dike Stormwater Basin	LAR UV Plant Drainage and V-Ditch
1	5/18/2018	1 LBVI – A 1 LBVI – A/V	2 LBVI – A	2 LBVI – A	No LBVI detected	No LBVI detected
2	5/30/2018	3 LBVI – A	1 LBVI – A	4 LBVI – A	No LBVI detected	No LBVI detected
3	6/8/2018	6 LBVI – A	6 LBVI – A	4 LBVI – A	1 LBVI – A	1 LBVI – A
4	6/18/2018	1 LBVI – A 1 LBVI pair – A 1 LBVI pair – A/V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected
5	6/29/2018	5 LBVI – A	No LBVI detected	1 LBVI – A 2 LBVI – A/V	No LBVI detected	No LBVI detected
6	7/10/2018	1 LBVI – A 2 LBVI – A/V 2 pair LBVI – A/V	1 LBVI – A	3 LBVI – A 1 LBVI – A/V	No LBVI detected	No LBVI detected
7	7/20/2018	2 LBVI – A 1 LBVI pair – A/V 1 LBVI fledgling – A/V	No LBVI detected	2 LBVI – A	No LBVI detected	No LBVI detected
8	7/30/2018	1 LBVI – A 2 LBVI pair – A/V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected

LAR = Los Angeles Reservoir; UV = ultraviolet; LBVI = least Bell's vireo; A = auditory detection; V = visual detection

Southwestern Willow Flycatcher

SWFL has been documented within 5.2 miles of the project site (USFWS 2018). Breeding SWFL are considered almost extirpated from Los Angeles County (Allen et al. 2016); however, a breeding individual was recently documented approximately 5.2 miles southeast of the project site at Hansen Dam (USFWS 2018). Willow flycatcher is a migratory species composed of four subspecies that breed within distinct geographic ranges. SWFL is a federally listed and state-listed endangered subspecies that breeds within the southwestern region of the United States. SWFL is a riparian obligate species and prefers to nest within dense, contiguous riparian habitat that is at least 30 feet wide with slow-moving water sources and saturated soils present (Sogge et al. 2010). There is minimal riparian vegetation suitable for this species present within the study area.

Although the potential for this species to occur within the study area is low, protocol-level presence/absence surveys were completed for SWFL within the study area. No federally protected or state-protected SWFL were observed within the study area. One migrant willow flycatcher (*Empidonax traillii;* full species) was observed singing within red willow–arroyo willow/mulefat thicket habitat in the Yarnell Debris Basin on May 30, 2018 (Figure 5B). Willow flycatcher was not detected during any other survey passes. In accordance with the survey protocol, a single early season detection of this species indicates a migrant subspecies and not the listed subspecies SWFL.

3.7 City Ordinances

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. 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*).

The project site does not include any City of Los Angeles protected trees.

4 Impacts

The purpose of this section is to describe the impacts of the proposed project on special-status biological resources. The proposed project would involve routine maintenance of 14 facilities composed of water storage reservoirs, detention basins, conveyance channels, and treatment facilities that together create the VNC. Routine maintenance activities include sediment removal and vegetation management activities. Avoidance and minimization measures (AMMs) implemented by LADWP as part of the project are provided in Attachment G.

Impacts Definition

This impact analysis assesses the potential for permanent, temporary, direct, and indirect impacts, as defined below, to biological resources within the study area.

Permanent impacts result in the permanent long-term loss of a biological resource.

Temporary impacts refer to areas impacted by project activities that would be restored to existing conditions after the project activity is complete.

Direct impacts are the alteration, disturbance, or destruction of biological resources that would result from project-related activities. Direct impacts can include temporary impacts, such as the disturbance or removal of vegetation that returns to pre-activity conditions, or permanent impacts that could result, for example, from repetitive maintenance activities that preclude the regeneration of vegetation.

Indirect impacts are reasonably foreseeable impacts caused by project implementation on biological resources outside of the direct area of impact (usually the limits of work areas). Indirect impacts may include increased human activity, decreased water quality and altered hydrology, soil compaction, elevated noise and dust levels, and the introduction of invasive wildlife and/or plant species. Temporary indirect impacts are usually directly related to maintenance activities and may include temporary increases in noise or dust, whereas permanent indirect impacts could result from long-term effects to surrounding habitat, such as the introduction of invasive species.

Significance Thresholds

The following are the significance thresholds for biological resources provided in the CEQA Appendix G Environmental Checklist, which states that project activities could potentially have a significant affect if they:

1. 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 CDFW or USFWS (Threshold Bio-1).
2. 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 CDFW or USFWS (Threshold Bio-2).
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Threshold Bio-3).
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Threshold Bio-4).
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Threshold Bio-5).
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan (Threshold Bio-6).

Impacts to Vegetation Communities and Land Covers

Table 6 summarizes direct impacts to vegetation communities and land covers as a result of the proposed project, and provides the basis for the subsequent impact analysis. Figures 6A through 6E, Biological Resources Work Areas, depict the extent of proposed work areas.

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Black willow thickets (S 3)	BWT	0.0
Fremont cottonwood forest[a] (S 3.2)	FCF	3.67
Fremont cottonwood/sandbar willow association[a] (S 3.2)	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		3.82
Arroyo willow thickets (S 4)	AWT	0.46
Arroyo willow/mulefat thickets (S 4)	AWT/MFT	0.0
Sandbar willow thickets (S 4.2)	SWT	0.68
Mulefat scrub thickets (S 4)	MFT	0.69
Disturbed mulefat thickets (S 4)	D-MFT	0.0

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Red willow thickets[a] (S 3)	RWT	2.78
Red willow–arroyo willow association (S 3)	RWT-AWT	0.78
Red willow–arroyo willow/mulefat thickets association (S3)	RWT-AWT/MFT	1.66
Smartweed patches (not ranked)	SMW	0.0
Cattail marshes (S 5)	CM	1.65
Water sedge and lakeshore sedge meadows (S 3)	Meadow	0.0
Subtotal Riparian Alliances and Stands[b]		*8.7*
Bladderpod spiderflower (not ranked)	BP	0.0
Blue elderberry (S 3)	BES	0.0
Disturbed blue elderberry	D-BES	0.0
Brittle bush scrub (S 4)	BBS	5.63
Disturbed brittle brush scrub (S 4)	D-BBS	0.0
Brittle bush scrub–California sagebrush scrub association (S 4)	BBS-CSS	0.0
California buckwheat scrub (S 5)	CBS	0.19
Coyote brush scrub (S 5)	CS	0.0
California sagebrush scrub (S 5)	CSS	0.04
California sagebrush scrub–black sage scrub (S 4)	CSS-BSS	0.0
California sagebrush scrub–California buckwheat scrub	CSS-CBS	0.0
Subtotal Upland Shrubland Alliances and Stands[a]		*5.86*
Basin (not ranked)	BAS	0.0
Non-native grassland (not ranked)	NNG	0.0
Eucalyptus groves (semi-natural stands)[c] (not ranked)	EUC	0.0
Upland mustards (semi-natural stands)[c] (not ranked)	UM (SNS)	50.02
Giant reed breaks (semi-natural stands)[c] (not ranked)	GRB	0.27
Parks and ornamental plantings (not ranked)	ORN	0.0
Disturbed habitat (not ranked)	DH	6.08
Unvegetated drainage (not ranked)	UD	3.64
Concrete-lined channel (not ranked)	CC	2.55
Open water (not ranked)	OW	0.27

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Urban/developed[b] (not ranked)	DEV	0.54
Subtotal Non-Natural Land Covers/Unvegetated Communities[b]		*63.37*
Total[b]		**81.75**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3).
[b] Totals may not sum due to rounding.
[c] The term "semi-natural stands" versus alliance is used in the Manual of California Vegetation to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

4.1 Threshold Bio-1: Special-Status Species

4.1.1 Special-Status Plants

No special-status plant species were observed during general biological reconnaissance surveys. All special-status species identified in the literature review were determined to either have a low potential to occur or were not expected to occur based on an assessment of habitat within the study area. Therefore, no impacts to special-status plant species would occur.

4.1.2 Special-Status Wildlife

Listed Wildlife Species

Five listed species have a potential to occur within the study area. The federally and state endangered LBVI was confirmed present during focused surveys. The federally threatened CAGN and the federally and state endangered SWFL were not detected during focused protocol surveys for these species, and there is a low potential for them to occupy the study area in the future. The state threatened Swainson's hawk has a low potential to occur.

Due to the presence of LBVI, direct or indirect impacts to listed species is a potentially significant impact. Direct impacts to LBVI could include collisions with maintenance equipment or destruction of nests during ground-disturbing activities should maintenance activities occur during the breeding season. Indirect impacts could result from an increase in noise, dust, and pollution during maintenance activities that would negatively impact nest success. The project would implement AMM-1, Resource Protection, which provides for avoidance of nesting birds by conducting maintenance outside of the nesting bird season, or, if nesting bird season cannot be avoided, conducting pre-activity surveys with avoidance of the nest and suitable buffer if nests are present. AMM-1 provides for pre-activity surveys within 1 week prior to start of work. Should special-status species be detected, LADWP would develop and implement a plan for the protection of these species. Indirect impacts to special-status species would be minimized through implementation of AMM-2, Habitat Protection, which provides for avoidance activities taking place at night, and AMM-6, Pollution, Litter, and Cleanup, which provides for best management practices for managing spills, leaks, and trash.

As shown in Table 7, the project would result in permanent impacts to 2.81 acres of unoccupied suitable habitat, and temporary impacts to 7.49 acres of unoccupied suitable habitat and 0.57 acres of habitat occupied by LBVI. Areas were identified as temporary impacts where work would be timed such that the habitat would be able to regenerate

between maintenance events. Within the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Debris Basin, impacts to riparian vegetation would be temporary, since vegetation would have the opportunity to regenerate in between proposed maintenance events. Impacts to riparian vegetation within all other project facilities would be permanent. Permanent impacts to occupied and suitable LBVI habitat would be significant, requiring mitigation. Additionally, consultation with USFWS is required for potential adverse impacts to LBVI. With implementation of mitigation measure (MM) MM-BIO-1, impacts to listed species would be less than significant.

Table 7. Impacts to Suitable and Occupied Least Bell's Vireo Habitat

Vegetation Community	Permanent Impacts to Unoccupied Suitable LBVI Habitat (acres)	Temporary Impacts		
		Occupied LBVI Habitat (acres)	Suitable LBVI Habitat (acres)	Total Temporary Impacts (acres)
Lower San Fernando Detention Basin	—	—	—	6.55
Arroyo willow thickets	—	—	0.36	—
Mulefat thickets	—	0.08	0.15	—
Fremont cottonwood forest	—	—	3.66	—
Red willow thickets	—	0.03	2.27	—
Upper Debris Basin	—	—	—	1.51
Mulefat thickets	—	0.12	0.07	—
Red willow–arroyo willow/mulefat	—	0.34	0.03	—
Sandbar willow	—	—	0.68	—
LAR UV Plant Drainage Feature	—	—	—	—
Arroyo willow thickets	0.02	—	—	—
Fremont cottonwood/sandbar willow	0.15	—	—	—
San Fernando Creek	—	—	—	—
Red willow thickets	0.25	—	—	—
Red willow–arroyo willow	0.78	—	—	—
Upper San Fernando Drain Line	—	—	—	—
Red willow thickets	0.24	—	—	—
Red willow–arroyo willow/mulefat	0.35	—	—	—
Upper San Fernando Drain Line Feature 1	—	—	—	—
Red willow–arroyo willow/mulefat	0.94	—	—	—
Upper San Fernando Drain Line Feature 2	—	—	—	—
Arroyo willow thickets	0.08	—	—	—
Total	**2.81**	**0.57**	**7.49**	**8.06**

LBVI = least Bell's vireo; LAR = Los Angeles Reservoir; UV = ultraviolet

Non-Listed Wildlife Species

Four non-listed wildlife species have a moderate potential to occur within the study area: Blainville's horned lizard, San Diegan tiger whiptail, loggerhead shrike, and Cooper's hawk. The state fully protected white-tailed kite (*Elanus leucurus*) has a low potential to occur within the study area. Direct impacts could include crushing of low-mobility species during grading, collisions with construction equipment, and destruction of bird nests during vegetation and ground-disturbance activities. Direct impacts to these species would be avoided through implementation of AMM-1, Resource Protection, which provides for a designated biologist to monitor all ground-disturbing maintenance activities and relocate non-listed, special-status, ground-dwelling vertebrates out of harm's way to the extent feasible. AMM-1 also provides for avoidance of nesting birds. Potential indirect impacts would be minimized as described above under "Listed Wildlife Species" with implementation of AMM-2, Habitat Protection, and AMM-6, Pollution, Litter, and Cleanup. With implementation of AMM-1, AMM-2, and AMM-6, impacts to non-listed wildlife species would be less than significant.

Nesting Birds

One red-tail hawk nest was observed within the project site during the survey efforts. Additionally, all of the project site includes suitable habitat for nesting bird species. Project activities could result in direct and indirect impacts to other nesting birds, including the loss of nests, eggs, and fledglings if vegetation clearing and ground-disturbing activities occur during the avian nesting season (typically January 1 through August 31). Implementation of AMM-1, Resource Protection, which provides for avoidance measures for nesting birds, would result in less-than-significant impacts to nesting birds.

4.2 Threshold Bio-2: Vegetation Communities

Table 8 summarizes impacts to special-status vegetation communities as a result of the project.

Table 8. Impacts to Special-Status Vegetation Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		
	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW		Total Permanent Impacts (acres)	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW and Suitable for LBVI (acres)	Total Temporary Impacts (acres)
		Suitable for LBVI (acres)	Not Suitable for LBVI (acres)				
Not CDFW Streambed							
Arroyo willow thickets	—	0.02	—	0.02	—	—	—
Fremont cottowood forest	—	—	—	—	3.66	—	3.66
Mulefat thickets	—	—	—	—	—	0.15	0.15
Subtotal	—	*0.02*	—	*0.02*	*3.66*	*0.15*	*3.81*

Table 8. Impacts to Special-Status Vegetation Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		
	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW		Total Permanent Impacts (acres)	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW and Suitable for LBVI (acres)	Total Temporary Impacts (acres)
		Suitable for LBVI (acres)	Not Suitable for LBVI (acres)				
CDFW Vegetated Streambed							
Arroyo willow thickets	–	0.08	–	0.08	–	0.36	0.36
Cattail marshes	–	–	1.57	1.57	–	–	–
Fremont cottonwood forest	–	–	–	–	–	–	–
Fremont cottonwood/sandbar willow	0.15	–	–	0.15	–	–	–
Mulefat thickets	–	–	–	–	–	0.54	0.54
Red willow thickets	0.48	–	–	0.48	2.30	–	2.30
Red willow–arroyo willow association	0.78	–	–	0.78	–	–	–
Red willow–arroyo willow/mulefat thickets association	1.30	–	–	*1.30*	*0.37*	–	1.36
Sandbar willow	–	–	–	–	–	0.68	0.68
Subtotal	*2.71*	*0.08*	*1.57*	*4.36*	*2.67*	*1.58*	*5.24*
Total	**2.71**	**0.10**	**1.57**	**4.38**	**6.33**	**1.73**	**8.06**

CDFW = California Department of Fish and Wildlife; LBVI = least Bell's vireo

Direct impacts to special-status vegetation communities would include removal due to sediment clearing and vegetation management. Maintenance of riparian habitat would be limited to every 3 years; therefore, impacts within the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Debris Basin would be temporary, since vegetation would have the opportunity to regenerate in between maintenance events. Additionally, maintenance activities within blue elderberry stands would be limited to hand pruning of the lower limbs of the trees and maintenance of the understory. Therefore, maintenance activities within 4.3 acres of blue elderberry stands would not result in impacts to this community. Impacts to special-status communities within all other facilities would be permanent. Loss of special-status vegetation communities is potentially significant; however, the special-status communities overlap with suitable LBVI habitat and/or CDFW jurisdictional streambeds that would be mitigated through implementation of MM-BIO-1 and MM-BIO-2, respectively.

Monitoring would be conducted as described under AMM-BIO-1 to confirm that timing limitations within special-status communities would be implemented, as outlined in the project description and AMMs. Implementation of AMM-BIO-7, which identifies removal of non-native species, would ensure that native species have the opportunity to regrow within maintained areas. Additional direct impacts could also result from inadvertent removal of special-status vegetation communities outside of designated work areas. The potential for inadvertent impacts outside of the work area would be minimized through implementation of AMM-BIO-2, which provides for demarcating the perimeter of the work area to prevent damage to adjacent habitat.

Indirect impacts to vegetation communities would include impacts from the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species. Indirect impacts to special-status vegetation communities would be minimized through implementation of AMM-6, Pollution, Litter, and Cleanup, which provides best management practices for managing spills, leaks, and trash, and AMM-7, Exotic Species Removal and Control, which identifies methods for removing and managing invasive species.

With implementation of AMM-1, AMM-2, AMM-6, AMM-7, and MM-BIO-1, impacts to special-status vegetation communities would be less than significant.

4.3 Threshold Bio-3: Jurisdictional Waters

The delineation of jurisdictional waters was prepared under separate cover, and impacts to jurisdictional waters are not discussed herein.

4.4 Threshold Bio-4: Wildlife Corridors

The project site is surrounded on all sides by development; undeveloped open space occurs to the north. The project site does not function as a wildlife corridor and does not support any wildlife nursery sites. As a result, implementation of the proposed project would not result in impacts to these resources.

4.5 Threshold Bio-5: Local Policies and Ordinances

There were no tree species defined as protected trees by the City of Los Angeles Municipal Code observed within the study area. There are no other local ordinances or codes relevant to biological resources; therefore, the project is consistent with local policies and ordinances, and no impact would occur.

4.6 Threshold Bio-6: Habitat Conservation Plan

The project site does not overlap any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan; therefore, the project would not be in conflict with any such plans, and no impact would occur.

5 Mitigation Measure

MM-BIO-1 Removal or disturbance of habitat suitable for least Bell's vireo shall be conducted outside of the typical nesting period for this species (approximately March 15 through August 15). Mitigation for permanent impacts to habitat shall be at a ratio of 1:1, or as otherwise determined by applicable resource agency permits. Mitigation shall be a combination of habitat preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency-approved permittee responsible mitigation project.

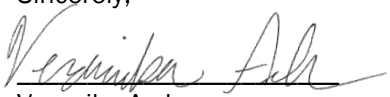
Prior to removal of suitable and/or occupied least Bell's vireo habitat, and presuming there is risk of "take" under federal or state law, the Los Angeles Department of Water and Power (LADWP) shall consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service on implementation of this mitigation measure (MM-BIO-1) and other minimization and avoidance measures as necessary to avoid "take." If "take" is unavoidable, LADWP shall secure the appropriate incidental take authorization or permit under Section 7 of the federal Endangered Species Act and Section 2081 of the California Endangered Species Act. Any measures determined to be necessary through Section 7 or Section 2081 shall be implemented.

6 Conclusions

The majority of the study area occurs within non-natural land covers and unvegetated communities dominated by disturbed habitat, developed areas, and upland mustards (semi-natural stands) with low potential to support special-status species. No federally listed or state-listed plant species were identified or have a moderate or high potential to occur within the study area. One listed wildlife species—LBVI—occurs within the study area within the Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Implementation of project AMMs, along with recommended MM-BIO-1, would reduce impacts to LBVI to less than significant. Implementation of project AMMs would result in less-than-significant impacts to other special-status wildlife species with a potential to occur, including CAGN, SWFL, Swainson's hawk, white-tailed kite, Blainville's horned lizard, San Diegan tiger whiptail, loggerhead shrike, Cooper's hawk, and other nesting bird species.

If you have any questions or comments regarding the content of this letter, please do not hesitate to contact me at 951.300.2181 or larcher@dudek.com.

Sincerely,



Veronika Archer
Senior Biologist

Att.: *Figures 1–6E*
Attachment A – Focused Survey Reports
Attachment B – Site Photographs
Attachment C – Plant Compendium
Attachment D – Wildlife Compendium
Attachment E – Special-Status Plant Species Potential to Occur
Attachment F – Special-Status Wildlife Species Potential to Occur
Attachment G – Avoidance and Minimization Measures

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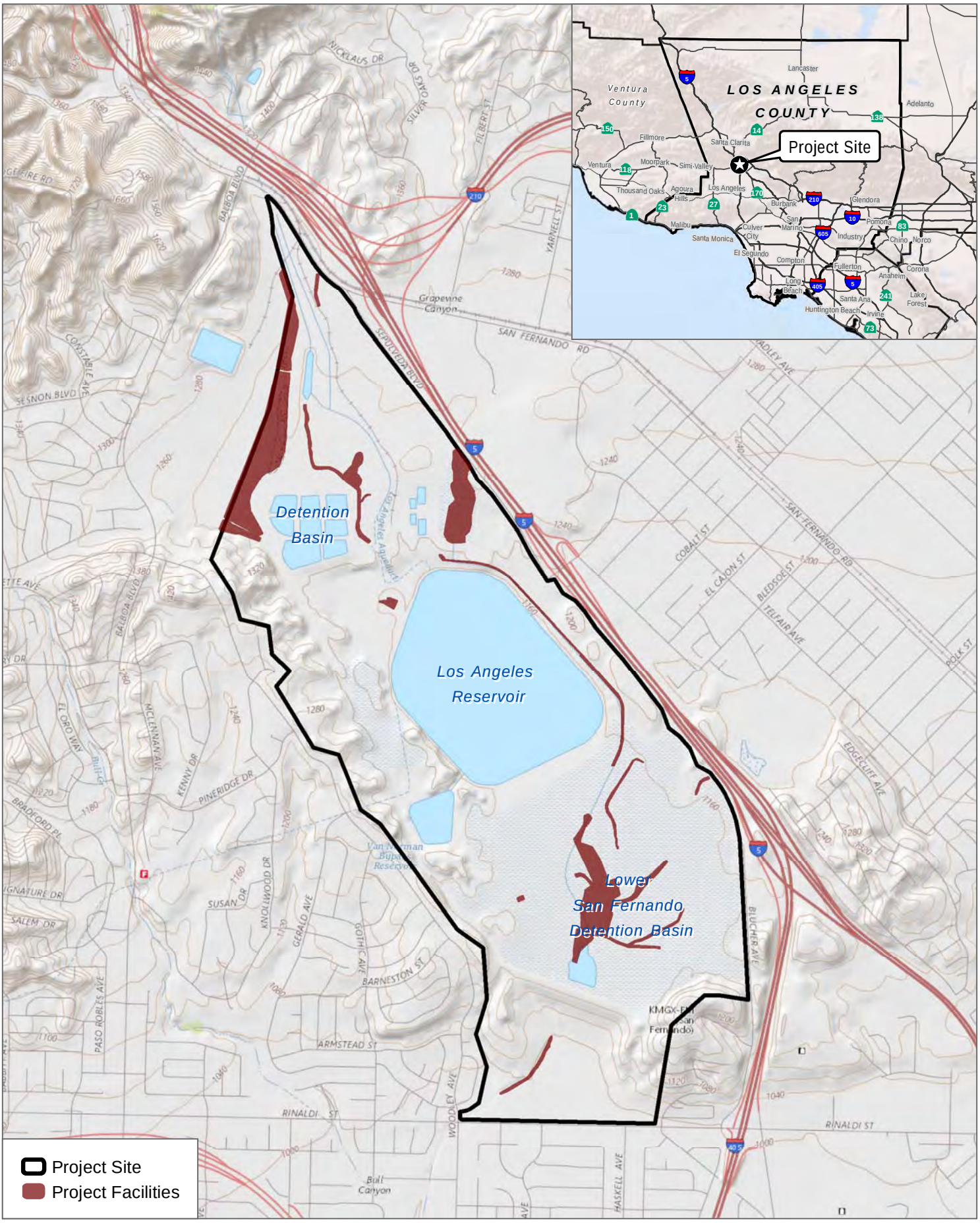


SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

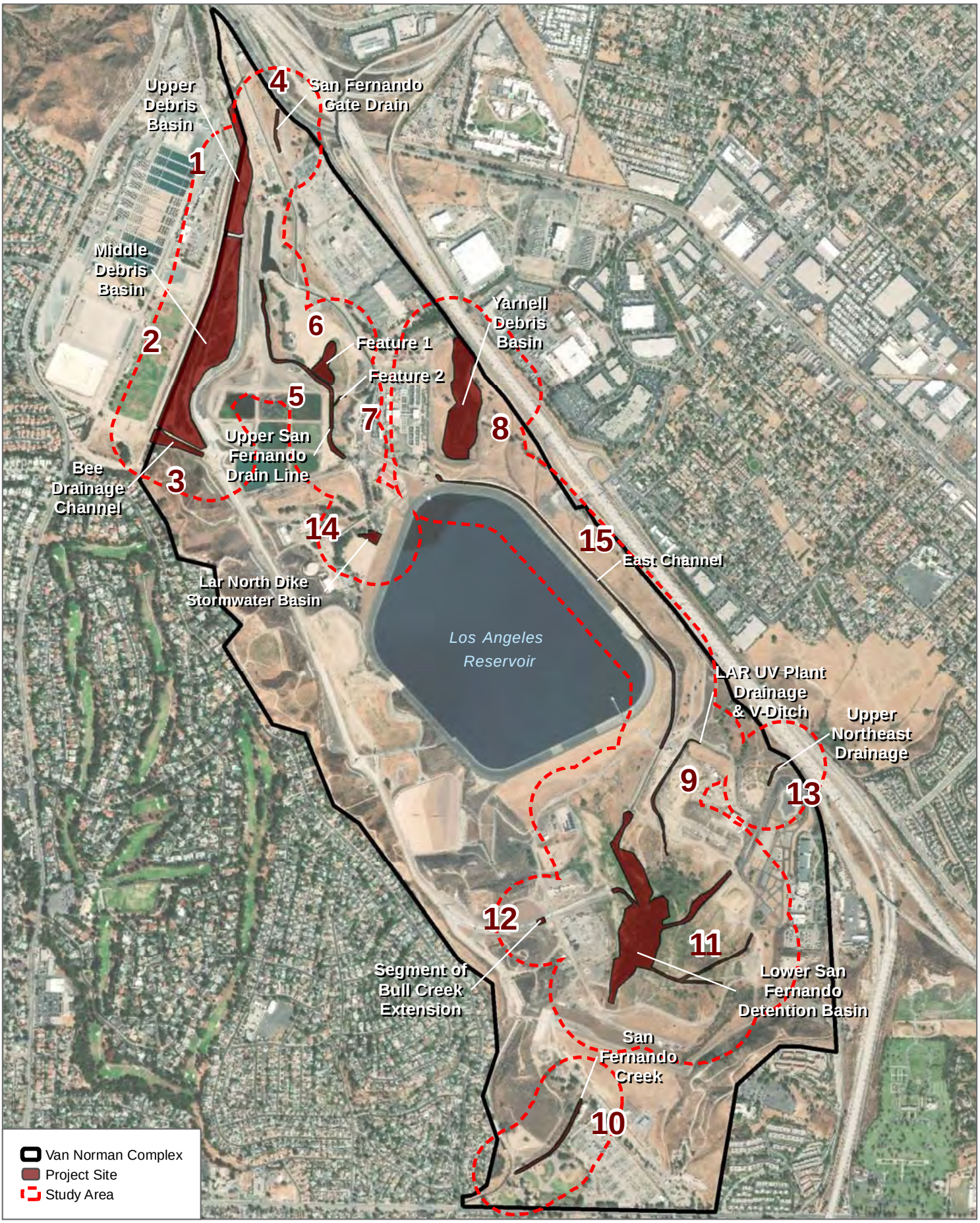
LA DWP Los Angeles Department of Water & Power

0 1,000 2,000 Feet

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 2

Project Site

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3A

CAGN Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

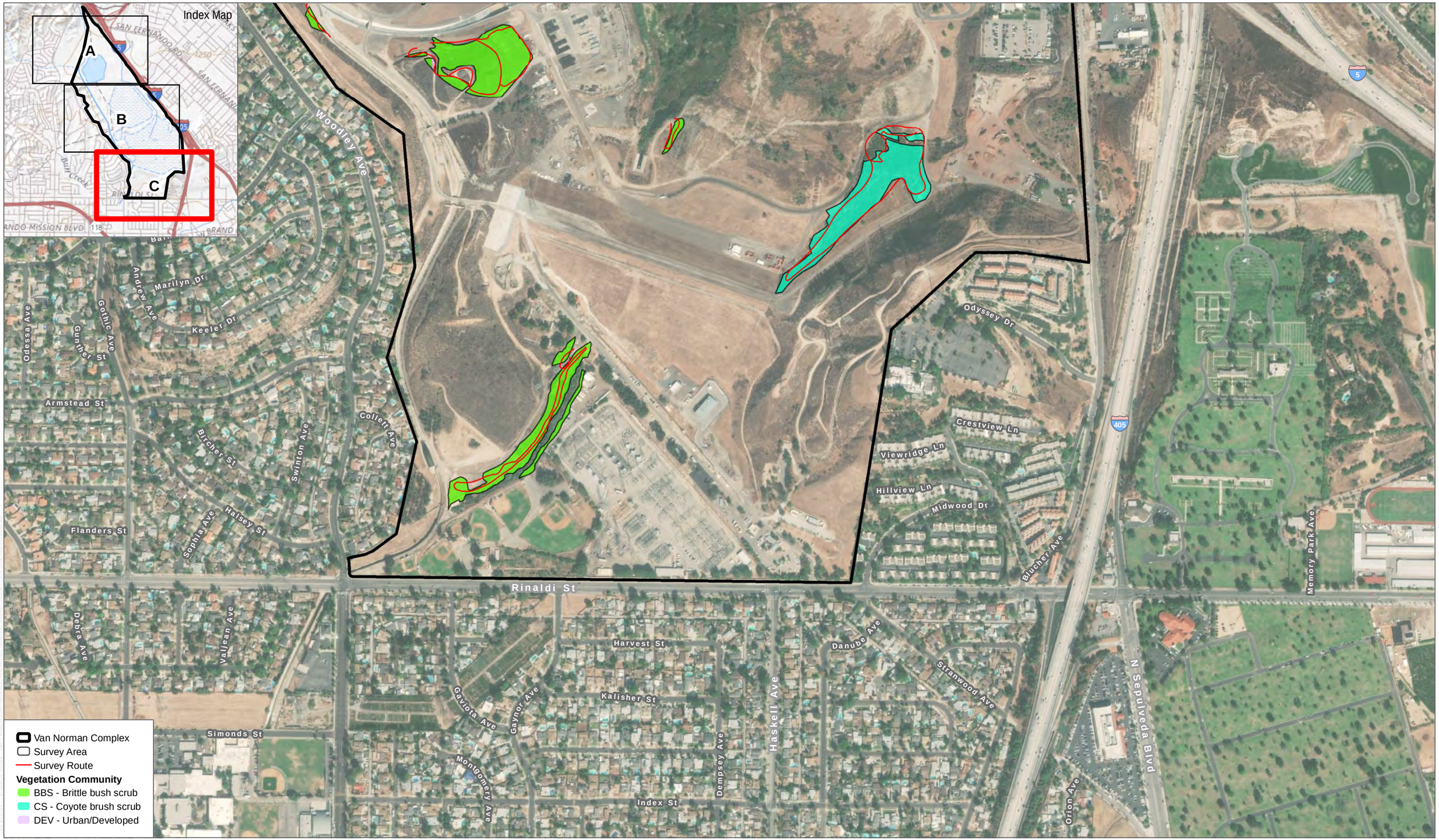
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3B

CAGN Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3C

CAGN Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4A

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

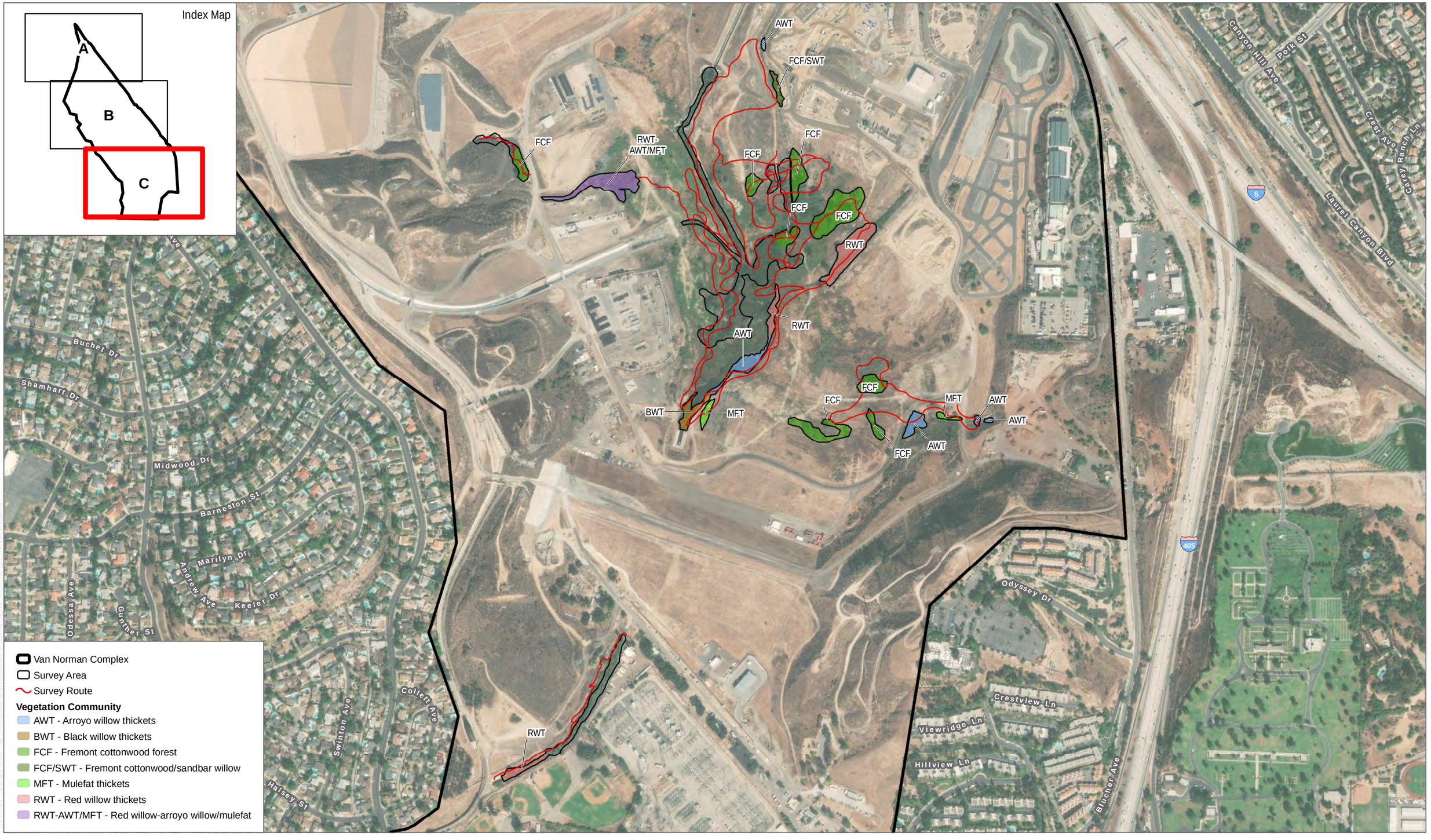
LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4B

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

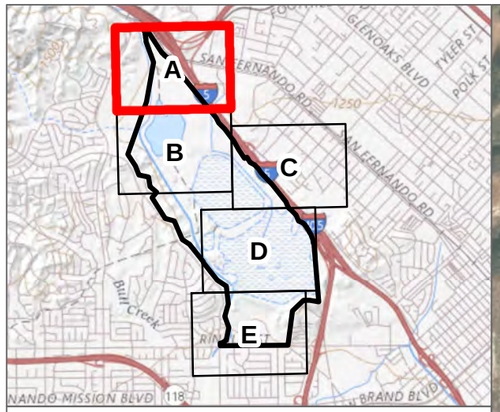
LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4C

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- AMKE - American kestrel
- YEWA - yellow warbler
- Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT/MFT - Arroyo willow/mulefat
- BBS - Brittle bush scrub
- BES - Blue elderberry
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- FCF - Fremont cottonwood forest
- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
- OW - Open water
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SWT - Sandbar willow
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

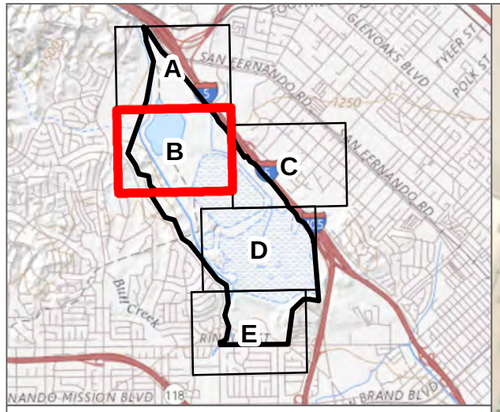
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5A

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- BHCO - brown-headed cowbird
- WIFL - willow flycatcher (migrant)
- YEWA - yellow warbler
- Resident LBVI Observations
- Non-Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Broad Leafed Upland Tree Dominated
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT - Arroyo willow thickets
- AWT/MFT - Arroyo willow/mulefat
- BAS - Basin
- BBS - Brittle bush scrub
- BBS-CSS - Brittle bush scrub-California Sagebrush scrub
- BES - Blue elderberry
- BWT - Black willow thickets
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CSS - California Sagebrush scrub
- CSS-CBS - California Sagebrush scrub-California buckwheat scrub
- D-BBS - Disturbed Brittle bush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- EUC - Eucalyptus groves
- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
- Meadow - Water sedge and Lakeshore sedge meadows
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SMW - Smartweed patches
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards
- dBES - Disturbed Blue Elderberry
- dMFS - Disturbed Mulefat thickets

SOURCE: DigitalGlobe 2016

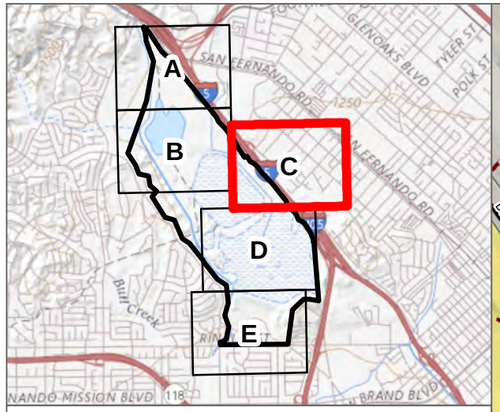
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5B

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area

General Vegetation Type

- Scrub and Chaparral
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- CC - Concrete-lined channel
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

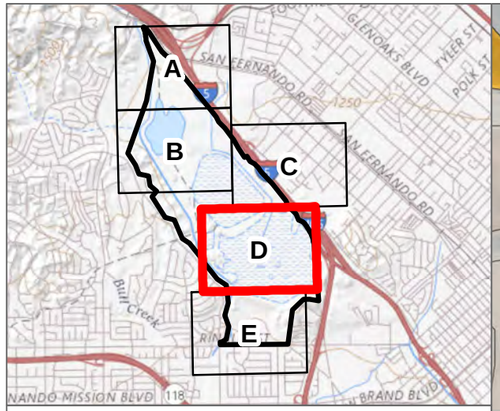
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5C

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- AMKE - American kestrel
- BHCO - brown-headed cowbird
- YEWA - yellow warbler
- RTHA - red-tailed hawk nest
- Resident LBVI Observations
- Non-Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT - Arroyo willow thickets
- BBS - Brittle bush scrub
- BWT - Black willow thickets
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- FCF - Fremont cottonwood forest
- FCF/SWT - Fremont cottonwood/sandbar willow
- MFT - Mulefat thickets
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

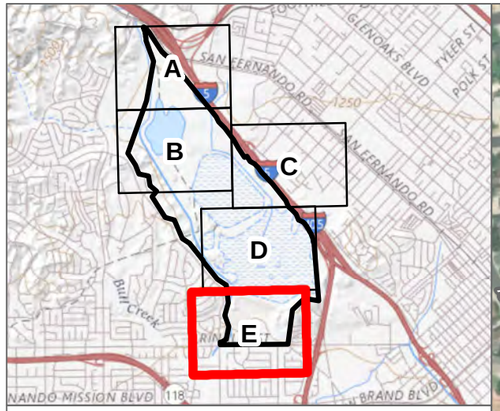
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5D

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- BP - Bladderpod spiderflower
- CC - Concrete-lined channel
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- RWT - Red willow thickets
- RWT-AWT - Red willow-arroyo willow
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

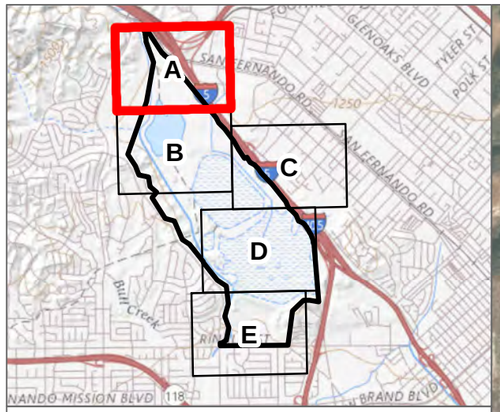
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5E

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- AMKE - American kestrel
- YEWA - yellow warbler
- Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

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- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
- OW - Open water
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SWT - Sandbar willow
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

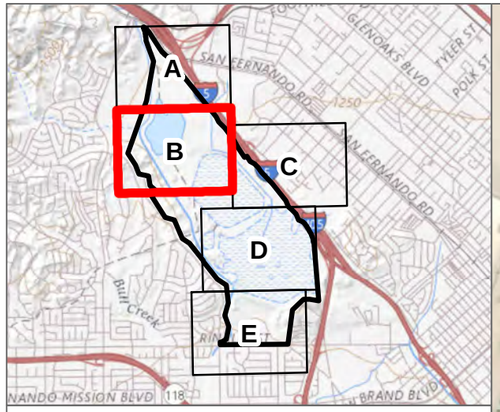
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6A

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- BHCO - brown-headed cowbird
- WIFL - willow flycatcher (migrant)
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- CSS-CBS - California Sagebrush scrub-California buckwheat scrub
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- DEV - Urban/Developed
- DH - Disturbed Habitat
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- SMW - Smartweed patches
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards
- dBES - Disturbed Blue Elderberry
- dMFS - Disturbed Mulefat thickets

SOURCE: DigitalGlobe 2016

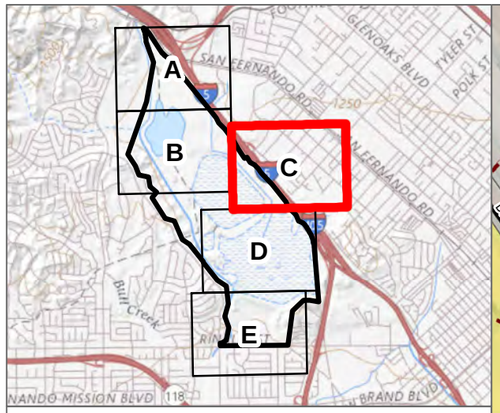
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6B

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

General Vegetation Type

- Scrub and Chaparral
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- CC - Concrete-lined channel
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

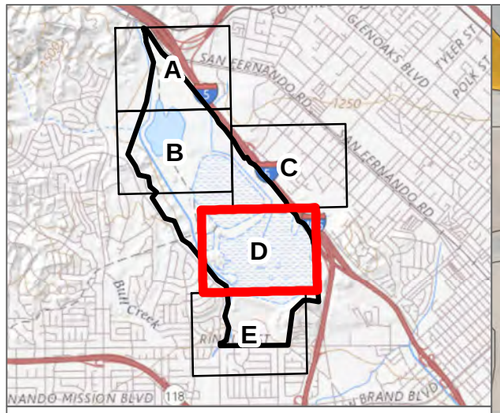
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6C

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- AMKE - American kestrel
- BHCO - brown-headed cowbird
- YEWA - yellow warbler
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- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

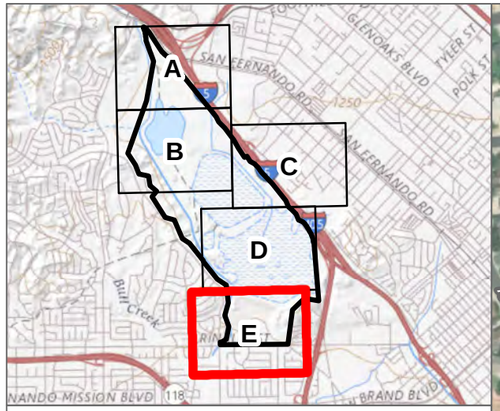
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6D

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- BP - Bladderpod spiderflower
- CC - Concrete-lined channel
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- RWT - Red willow thickets
- RWT-AWT - Red willow-arroyo willow
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6E

Biological Resources Work Areas

LADWP Van Norman Complex

Attachment A

Focused Survey Reports

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

August 13, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: ***Focused California Gnatcatcher Survey Report for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout areas of suitable habitat (i.e., brittle bush scrub, disturbed brittle bush scrub, California sagebrush scrub, California buckwheat scrub, coyote bush scrub) within and near the Los Angeles Department of Water and Power's (LADWP) proposed Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. Suitable habitat for CAGN is approximately 80 acres within the survey area. The project site is located in the City of Los Angeles, Los Angeles County, California. Dudek biologist Jeff Priest (TE840619-6) conducted CAGN surveys from May through June 2018.

The CAGN is a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

LOCATION AND EXISTING CONDITIONS

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several existing drainage facilities throughout the Van Norman Complex (VNC). The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that

cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. On-going vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP, and is located immediately northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey (USGS) 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level (AMSL) in the southern portion of the VNC to approximately 1,270 feet AMSL along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the survey area are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, Dam, debris basin, and water (USDA 2018).

VEGETATION COMMUNITIES

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable CAGN habitat within the survey area includes brittle bush scrub, California sagebrush scrub, and coyote bush scrub, described in detail below.

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
Upland Shrubland Alliances and Stands	
Brittle bush alliance (S 4)	73.1
Disturbed brittle bush alliance (not ranked)	0.25
California buckwheat alliance (S 5)	1.75

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
California sagebrush scrub (S 5)	0.25
Coyote bush scrub (S 5)	4.70
Total	**80.05**

Brittle Bush Scrub Alliance

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the VNC. Within the VNC, this vegetation community may also consist of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Mallosma laurina*), orange bush monkeyflower (Diplacus aurantiacus var. puniceus), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the VNC is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer. Disturbed brittle bush scrub habitat also occurs on-site, and is composed of a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

California Buckwheat Scrub Alliance

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse well-drained soils (Sawyer et al. 2009).

Within the VNC, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard also present.

Coyote Bush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This

vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Within the VNC, coyote brush scrub occurs along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush (*Artemisia californica*) in the shrub canopy with intermittent to continuous cover. The shrub canopy can either be less than 2 meters (7 feet) or in two tiers with a second layer that is typically less than 5 meters (16 feet). The herbaceous layer varies seasonally and annually (Sawyer et al. 2009).

Within the VNC, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage, and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

METHODS

The presence/absence focused survey for CAGN was conducted for the project between May 25 and June 29, 2018. The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. Critical habitat for this species is located approximately 0.5 mile northwest of the project site.

Table 2
Survey Dates and Conditions

Date	Personnel	Temperature	Wind	Sky	Time
05/25/18	Jeff Priest	56°F- 70°F	0-4 mph	90%-100% cc	0600–1200
06/01/18	Jeff Priest	58°F- 76°F	0-4 mph	0% cc	0600–1200
06/08/18	Jeff Priest	57°F- 85°F	0-5 mph	0% cc	0600–1200
06/15/18	Jeff Priest	58°F-83°F	0-5 mph	50% cc	0600–1200
06/22/18	Jeff Priest	63°F- 85°F	0-5 mph	0%-100% cc	0600–1200
06/29/17	Jeff Priest	57°F- 75°F	0-5 mph	100%-10% cc	0600–1200

* Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (USFWS 1997). The survey included six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80-acres of suitable habitat

were surveyed by a single biologist during each site visit. Survey routes are shown in Figure 2, and allowed for complete audible and visual coverage of all suitable CAGN habitat on site.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the site area was carried during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any CAGN present. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization-playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment.

RESULTS

No CAGN were observed within the LADWP VNC project site. A full list of bird species observed during the survey and within proximity of the survey area is provided in Attachment B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Jeff Priest
Permit # TE840619-6

Att: A, Figure 1, Project Map
Figure 2, Survey Routes
B, Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J. L. 1990. *Status review of the California gnatcatcher (Polioptila californica*). Unpublished technical report Manomet Bird Observatory, Manomet, Massachusetts. 79pp.

Braden, G.T, R.L. McKernan, and S.M. Powell. 1997. "Effects of Nest Parasitism by the Brown-Headed Cowbird on Nesting Success of the California gnatcatcher." Condor 99: 858–865.

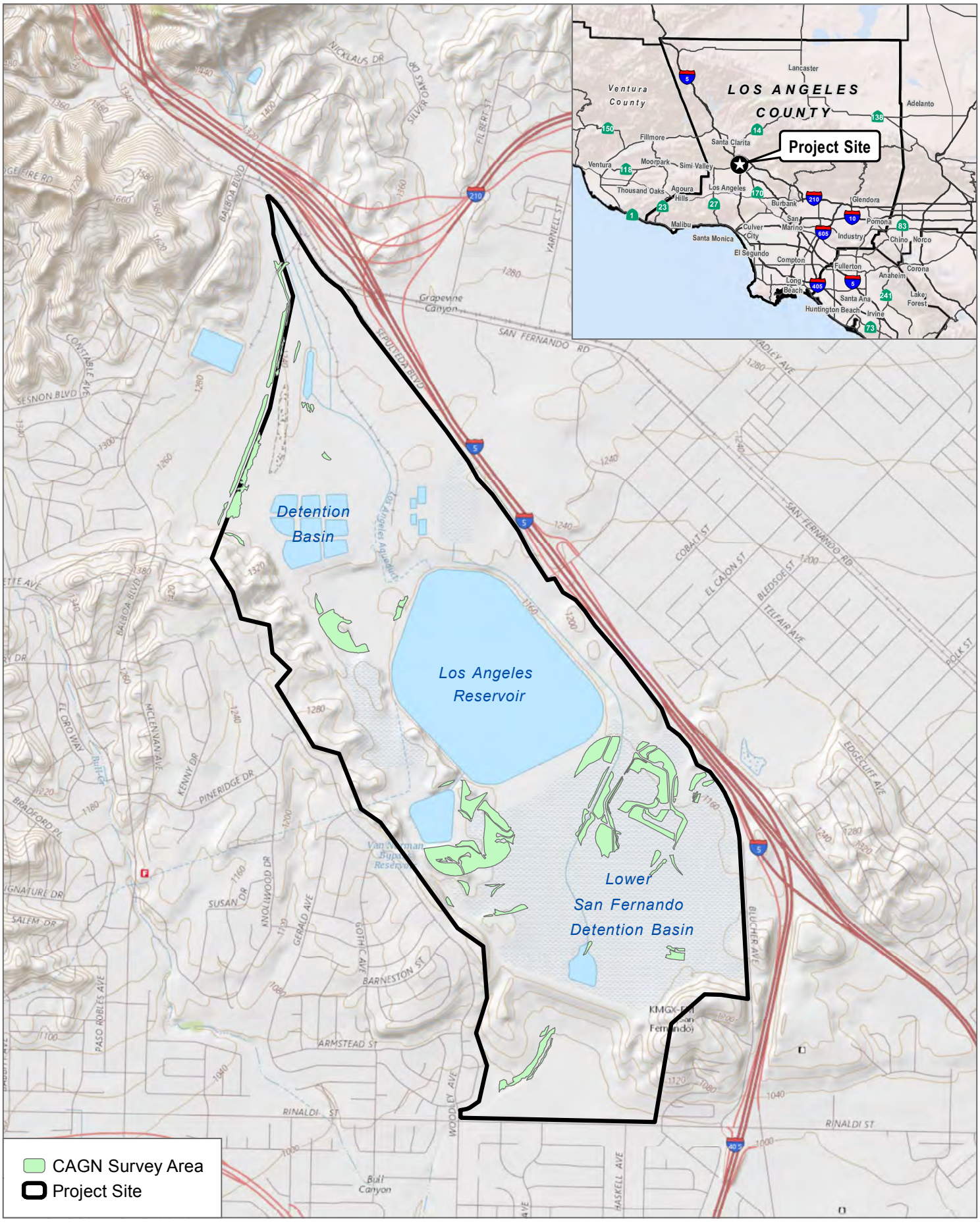
Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

USDA (U.S. Department of Agriculture), Soil Conservation Service, and West Los Angeles County Resource Conservation District in cooperation with University of California Agricultural Experiment Station. 1980. Soil Survey of Los Angeles County, California, West San Fernando Valley Area. Accessed May 2016. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/lawsfvaCA1980/lawsfvaCA1980.pdf.

USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Protocol*. July 28, 1997.

ATTACHMENT A

Figures 1–2



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

LA DWP Los Angeles Department of Water & Power

FIGURE 1

Project Location

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex

ATTACHMENT B

Compendium of Wildlife Species Observed or Detected

APPENDIX B
Compendium of Wildlife Species Observed or Detected

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Pipilo maculatus—spotted towhee

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

* *Streptopelia decaocto*—Eurasian collared-dove
Zenaida macroura—mourning dove

ROADRUNNERS AND CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Euphilotes battoides bernardino—Bernardino square-spotted blue

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Junonia coenia—common buckeye

RIODINIDAE—METALMARKS

Apodemia mormo virgulti—Behr's metalmark

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES AND SULFURS

Pieris rapae—cabbage white

Pontia protodice—checkered white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stanburiana—common side-blotched lizard

* signifies introduced (non-native) species

INTENTIONALLY LEFT BLANK

38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

August 24, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: 2018 Southwestern Willow Flycatcher and Least Bell's Vireo Focused Survey Results for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California

Dear Recovery Permit Coordinator:

This report documents the results of eight protocol-level presence/absence surveys for the state- and federally listed endangered least Bell's vireo (*Vireo bellii pusillus*) (vireo) and five protocol-level presence/absence surveys for the state- and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher). Focused surveys were conducted throughout all areas of suitable habitat (i.e., Fremont cottonwood forest, arroyo willow thickets, mulefat thickets, red willow thickets, and sandbar willow) within and near the proposed Los Angeles Department of Water and Power (LADWP) Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area consists of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. The survey area is approximately 31.3 acres. The project site is located in the City of Los Angeles, Los Angeles County, California. Permitted Dudek biologists Brock Ortega (Permit # TE813545-7), Paul Lemons (Permit # TE051248-5), Melissa Blundell (Permit # TE-97717A), and Jeffrey Priest (Permit # TE840619-6) conducted all flycatcher surveys and qualified biologist Tracy Park conducted vireo surveys from May through July 2018.

The flycatcher and vireo are closely associated with riparian habitats, especially densely vegetated willow scrub and riparian forest vegetation. These species are threatened primarily by loss, degradation, and fragmentation of riparian habitats. Flycatcher is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

Location and Existing Conditions

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several drainage facilities throughout the VNC. The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. Ongoing vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area consists of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP and is located immediately northwest of the Interstate 5 and Interstate 405 interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level in the southern portion of the VNC to approximately 1,270 feet above mean sea level along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the VNC are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, dam, debris basin, and water (USDA 2018).

Vegetation Communities

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable flycatcher and vireo habitat includes Fremont cottonwood, Fremont cottonwood/sandbar willow, arroyo willow thickets, mulefat thickets, red willow thickets, red willow-arroyo willow/mulefat, and sandbar willow, as described below.

Table 1
Vegetation Communities and Land Covers within the Survey Area

Vegetation Community or Land Cover	Map Code	Survey Area (acres)
Riparian Forest and Woodland Alliances and Stands		
Fremont cottonwood alliance[a]	FCF	4.25
Fremont cottonwood/sandbar willow association[a]	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		*4.40*
Riparian Thickets Alliances and Stands		
Arroyo willow thickets	AWT	0.93
Arroyo willow/mulefat thickets association	Sallas/Bacsal	0.82
Black willow thickets	BWT	0.35
Blue elderberry scrub	BES	4.39
Mulefat thickets alliance	MFT	3.44
Red willow thickets alliance[a]	RWT	6.32
Red willow-arroyo willow	Sallae-Sallas	0.78
Red willow-arroyo willow/mulefat	Sallae-Sallas/Bacsal	8.72
Sandbar willow	SWT	1.16
Subtotal Riparian Alliances and Stand[b]		*26.91*
Total[b]		**31.31**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank (S) 1, 2, or 3).
[b] Totals may not sum due to rounding.

Fremont Cottonwood Alliance

Fremont cottonwood is a native plant community dominated by Fremont cottonwood (*Populus fremontii*) in a less than 80-foot-tall continuous to open tree canopy with an intermittent to open shrub layer. This vegetation community typically occurs on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, in lower canyons, and in alluvial fans (Sawyer et al. 2009).

Fremont Cottonwood/Sandbar Willow Association

Fremont cottonwood/sandbar willow is a native plant community dominated by Fremont cottonwood and sandbar willow (*Salix exigua*) with an intermittent to continuous shrub layer less than 22 feet in height and a continuous to open tree canopy less than 80 feet in height. This vegetation community typically occurs on floodplains, along rivers and streams, and at springs (Sawyer et al. 2009).

Blue Elderberry Stands

Blue elderberry stands is a native plant community dominated by blue elderberry (*Sambucus nigra*) in an open to continuous, sometimes two-tiered, shrub canopy less than 26 feet in height. This vegetation community typically occurs on stream terraces, in bottomlands, and sometimes in upland settings (Sawyer et al. 2009).

Arroyo Willow Thickets

Arroyo willow is a native plant community dominated by arroyo willow (*Salix lasiolepis*) in an open to continuous canopy less than 32 feet in height. This vegetation community typically occurs on stream banks and benches, slope seeps, and stringers along drainages (Sawyer et al. 2009).

Black Willow Thickets

Black willow thickets is a native plant community dominated by black willow (*Salix gooddingii*) in an open to continuous tree canopy less than 98 feet in height. This vegetation community typically occurs along large rivers and canyons, as well as smaller intermittent streams, seeps, and springs (Sawyer et al. 2009).

Mulefat Thickets Alliance

Mulefat thickets is a native plant community dominated by mulefat (*Baccharis salicifolia*) in a less than 16-foot-tall continuous two-tiered shrub canopy with a sparse herbaceous layer. This vegetation community typically occurs on canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels (Sawyer et al. 2009).

Red Willow Thickets Alliance

Red willow thickets is a native plant community dominated by red willow (*Salix laevigata*) in an open to continuous tree canopy less than 65 feet in height. This vegetation community typically occurs on floodplains, ditches, lake edges, and low-gradient depositions along streams (Sawyer et al. 2009).

Red Willow–Arroyo Willow Association

Red willow–arroyo willow association is dominated by red willow and co-dominated by arroyo willow. On site, red willow thickets occurs within San Fernando Creek.

Red Willow-Arroyo Willow/Mulefat

Red willow-arroyo willow/mulefat is a native plant community dominated by red willow, arroyo willow, and mulefat with an open to continuous shrub and tree layer. This vegetation community typically occurs along streams, along drainages, on canyon bottoms, and on floodplains (Sawyer et al. 2009).

Sandbar Willow

Sandbar willow is a native plant community dominated by sandbar willow in an intermittent to continuous shrub layer less than 23 feet in height. This vegetation community typically occurs on temporarily flooded floodplains, depositions along rivers and streams, and at springs (Sawyer et al. 2009).

Methods

Suitable habitat within the survey area was surveyed eight times for vireo and five times for flycatcher (Table 2). Permitted Dudek wildlife biologists Brock Ortega, Paul Lemons, Melissa Blundell, and Jeffrey Priest conducted flycatcher and vireo surveys, while qualified Dudek biologist Tracy Park conducted vireo surveys. Focused surveys for these species were initiated on May 30, 2018. Surveys for flycatcher were completed on July 10, 2018, and surveys for vireo were completed on July 30, 2018.

Surveys conducted for vireo and flycatcher by the same biologist on the same day were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for flycatcher first (i.e., first thing in the morning) and surveys for vireo conducted afterward. Survey routes were arranged such that flycatchers were surveyed from a starting point to an end point, and vireos were surveyed on the way back. These routes covered all suitable habitat on site (as shown on Figure 2).

The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. The nearest critical habitat for flycatcher is located approximately 4.5 miles southeast of the project site within Hansen Dam Park, and nearest critical habitat for vireo is located approximately 9.3 miles northwest of the project site within the Santa Clara River.

Table 2
Survey Dates and Conditions

Survey Pass - Survey Type	Date	Personnel	Temperature	Wind	Sky	Time
1-LBVI	05/18/18	Tracy Park	58°F–63°F	0–3 mph	75%–99% cc	0610–1145
1-SWFL 2-LBVI	05/30/18	Brock Ortega	55°F–57°F	0–1 mph	100% cc	0615–1110
2-SWFL 3-LBVI	06/08/18	Paul Lemons	60°F–82°F	0–3 mph	0% cc	0630–1100
3-LBVI	06/08/18	Tracy Park	60°F–78°F	0–3 mph	0% cc	0600–1100
3-SWFL 4-LBVI	06/18/18	Jeffrey Priest	58°F–72°F	0–6 mph	0% cc	0600–1100
4-LBVI	06/18/18	Tracy Park	62°F–73°F	0–4 mph	2%–3% cc	0600–1025
4-SWFL 5-LBVI	06/29/18	Melissa Blundell	62°F–66°F	0–1 mph	100% cc	0625–0942
5-LBVI	06/29/18	Tracy Park	65°F–75°F	0–5 mph	40%–100% cc	0630–1100
5-SWFL 6-LBVI	07/10/18	Jeffrey Priest	74°F–80°F	0–4 mph	70%–80% cc	0545–0945
6-LBVI	07/10/18	Tracy Park	78°F–86°F	1–3 mph	70%–80% cc	0615–1055
7-LBVI	07/20/18	Tracy Park	69°F–85°F	0–1 mph	5% cc	0555–1100
8-LBVI	07/30/18	Tracy Park	74°F–94°F	0–1 mph	20%–70% cc	0603–1100

Note: SWFL = southwestern willow flycatcher; LBVI = least bell's vireo; °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat within the survey area. The perimeter was also surveyed. This route was arranged to cover all suitable habitat on site (depicted on Figure 2). A vegetation map (1:2,400 scale; 1 inch = 200 feet) of the project site was available to record any detected flycatchers or vireos. Binoculars (e.g., 10×42, 10×50) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for flycatcher followed the currently accepted protocol (*A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (Sogge et al. 2010)), which states that a minimum of five survey visits are needed to evaluate project effects on flycatchers. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 29 and July 10) were separated by at least 5 days. A tape of recorded

flycatcher vocalizations was used, approximately every 50 to 100 feet within suitable habitat, to induce flycatcher responses. If flycatchers were detected, tape playback ceased immediately to avoid harassment. Weather conditions, time of day, and season were appropriate for the detection of flycatcher (Table 2).

The entire survey area was surveyed for flycatcher on SWFL survey passes 1 and 2. Based on these two visits, two areas were determined to be suitable breeding habitat for flycatcher (i.e., trees of different size classes with a distinct overstory, recognizable subcanopy layers, and a dense understory): Lower San Fernando Detention Basin and Yarnell Basin. Survey passes 3, 4, and 5 only covered these areas for flycatcher.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for vireo. The eight surveys for vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitat between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations was not used during the surveys.

Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Weather conditions, time of day, and season were appropriate for the detection of vireos and flycatchers (Table 2). All other avian species detected during surveys were recorded.

Results

One willow flycatcher (*Empidonax traillii*) was observed during the first focused survey on May 30, 2018. The single willow flycatcher was observed north of the LAR within riparian habitat. Flycatcher detection information is depicted on Figure 2. In accordance with the survey protocol, a single early season detection of this species indicates a migrant subspecies and not the listed subspecies southwestern willow flycatcher.

Multiple vireos were observed at the VNC within the Middle Debris Basin, Lower San Fernando Detention Basin, LAR North Dike Stormwater Basin, and Yarnell Debris Basin. A total of 21 observations of singing vireo males were made within the study area. Based on locations of observations over multiple survey passes, these observations were determined to comprise 16 resident males. Five locations were only observed during a single survey pass and therefore determined to be non-resident, transient vireos using the VNC facilities as stopover habitat. Three vireo males within the Middle Debris Basin were confirmed to be paired based on visual and/or auditory association with a vireo female. Of these pairs, one was confirmed breeding: an adult vireo was observed feeding a vireo fledgling during the 7th survey pass conducted on July 20, 2018. All vireo detected visually were un-banded individuals.

Overall, three facilities within the VNC are considered occupied based on repeated observations of vireo across survey passes: Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Brown-headed cowbirds were detected within all three vireo-occupied facilities. Five brown-headed cowbirds (four male, one female) were detected during the survey. Vireo detections and resident vireo observed use areas are depicted on Figure 3. Survey results for vireo are shown in Table 3.

Table 3
Least Bell's Vireo Survey Results

Survey Pass	Date	Middle Debris Basin	Yarnell Debris Basin	Lower San Fernando Detention Basin	LAR UV North Dike Stormwater Basin	LAR UV Plant Drainage and V-Ditch
1	5/18/2018	1 LBVI – A 1 LBVI – A / V	2 LBVI – A	2 LBVI – A	No LBVI detected	No LBVI detected
2	5/30/2018	3 LBVI – A	1 LBVI – A	4 LBVI – A	No LBVI detected	No LBVI detected
3	6/8/2018	6 LBVI – A	6 LBVI – A	4 LBVI – A	1 LBVI – A	1 LBVI – A
4	6/18/2018	1 LBVI – A 1 LBVI pair – A 1 LBVI pair – A / V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected
5	6/29/2018	5 LBVI – A	No LBVI detected	1 LBVI – A 2 LBVI – A / V	No LBVI detected	No LBVI detected
6	7/10/2018	1 LBVI – A 2 LBVI – A / V 2 pair LBVI – A / V	1 LBVI – A	3 LBVI – A 1 LBVI – A / V	No LBVI detected	No LBVI detected
7	7/20/2018	2 LBVI – A 1 LBVI pair – A / V 1 LBVI fledgling – A / V	No LBVI detected	2 LBVI – A	No LBVI detected	No LBVI detected
8	7/30/2018	1 LBVI – A 2 LBVI pair – A / V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected

Note: LAR = Los Angeles Reservoir; A = Auditory detection; V = Visual detection; LBVI = least Bell's vireo

Other special-status species observed included American peregrine falcon (*Falco peregrinus anatum*), a federally de-listed and California Department of Fish and Wildlife (CDFW) Fully Protected (FP) species; Cooper's hawk (*Accipiter cooperi*), a CDFW Watch List (WL) species; Lawrence's goldfinch (*Spinus lawrencei*), a U.S. Fish and Wildlife Service (USFWS) Bird of Conservation Concern (BCC); double-crested cormorant (*Phalacrocorax auritus*), a CDFW WL species; rufous hummingbird (*Selasphorus rufus*), a USFWS BCC species; and yellow warbler (*Setophaga petechia*), a CDFW Species of Special Concern (SSC) (Appendix A).

A full list of 74 bird species observed during the survey and within proximity of the survey area is provided in Appendix A. The willow flycatcher survey and detection form is included as Appendix B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Brock Ortega
Permit # TE813545-7

Paul Lemons
Permit # TE051248-5

Jeff Priest
Permit # TE840619-6

Melissa Blundell
Permit # TE-97717A

Att: Figure 1, Location Map
Figure 2A, Survey Areas and Routes
Figure 2B, Survey Areas and Routes
Figure 2C, Survey Areas and Routes
Figure 3A, Results
Figure 3B, Results
Figure 3C, Results
Appendix A, Wildlife Species Observed in Survey Area
Appendix B, Willow Flycatcher Survey and Detection Form

References

Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

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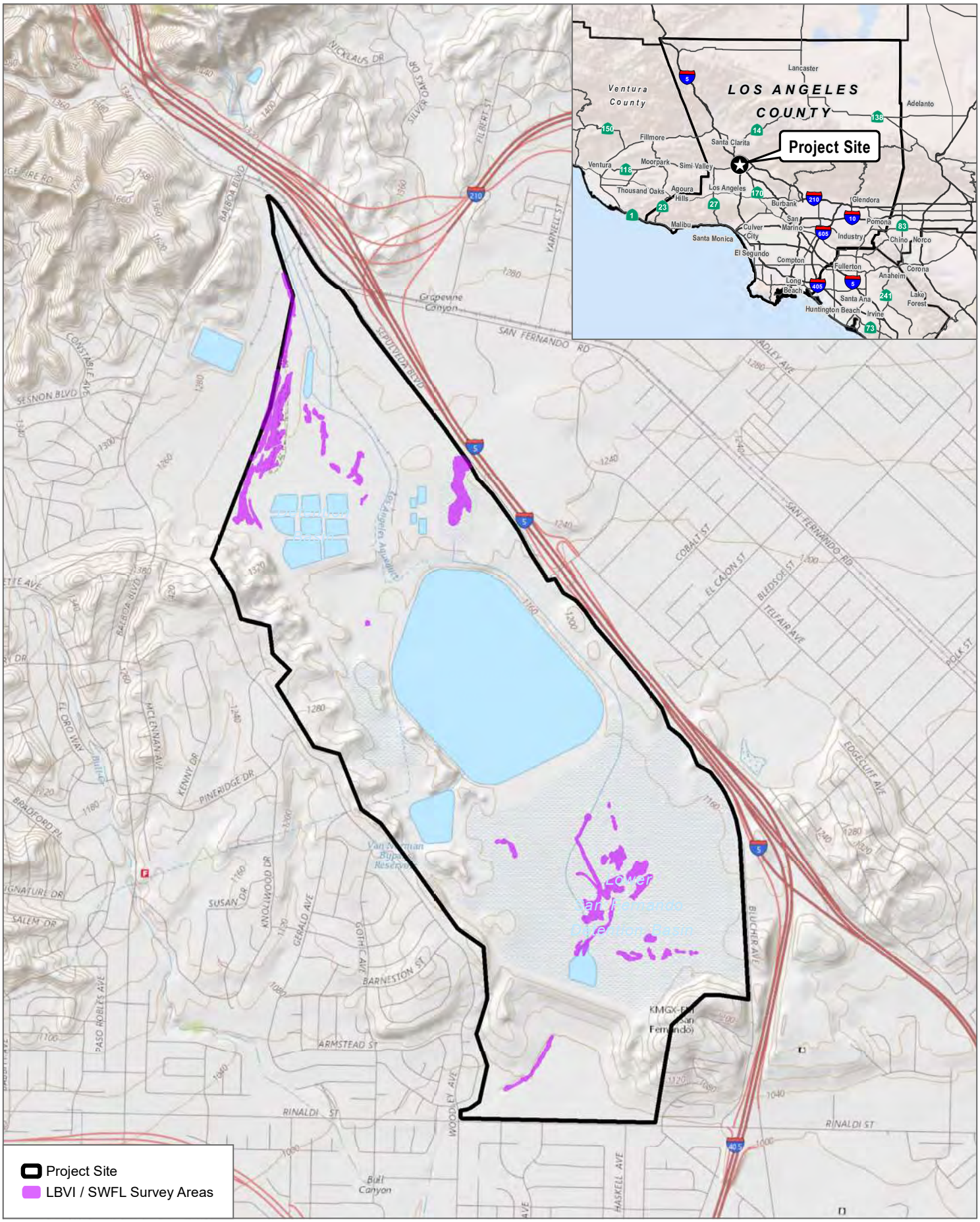
USFWS. 2001. *Least Bell's Vireo Survey Guidelines.* January 19, 2001.



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

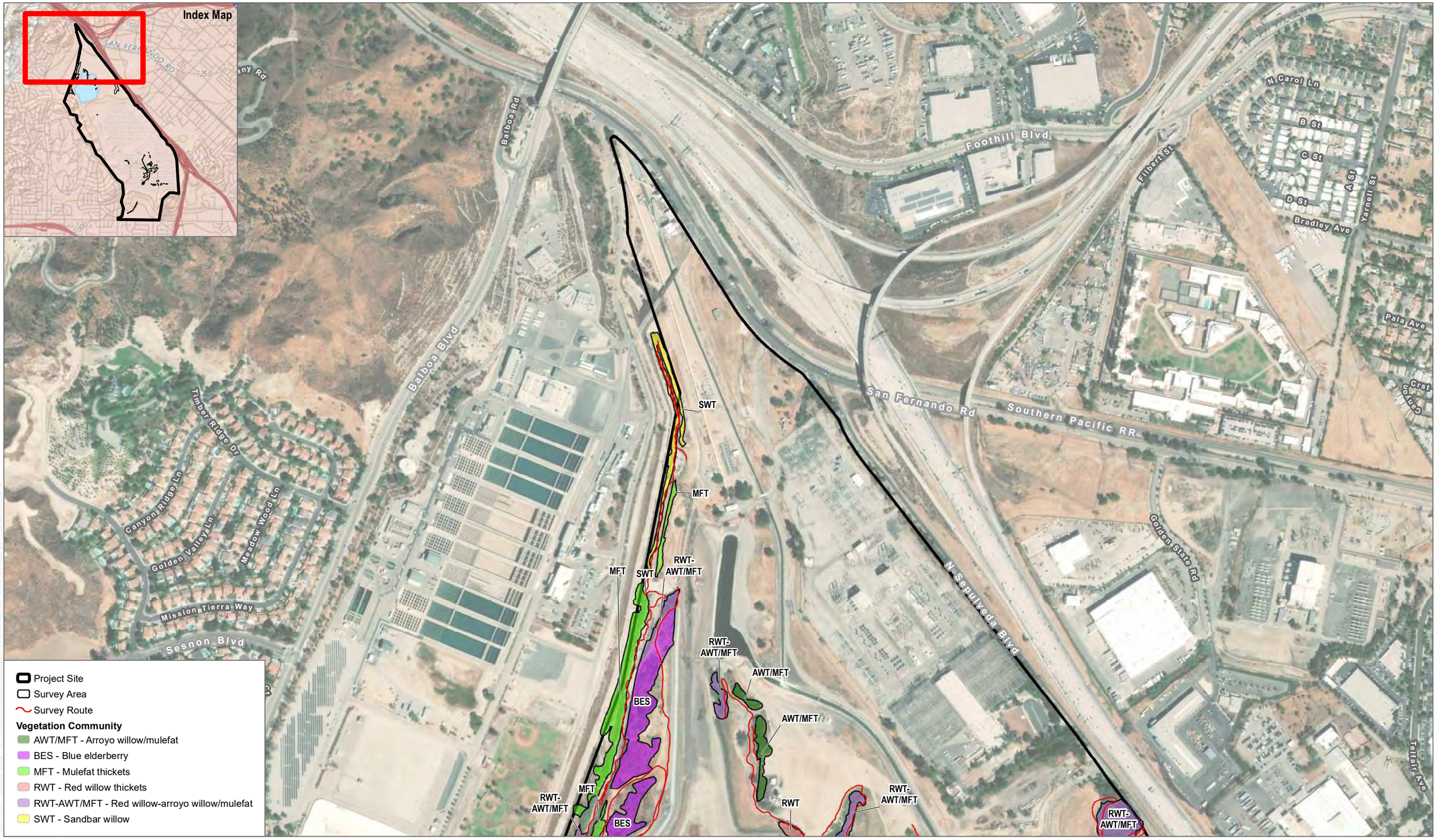
Los Angeles Department of Water & Power

0 1,000 2,000 Feet

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigititalGlobe 2016

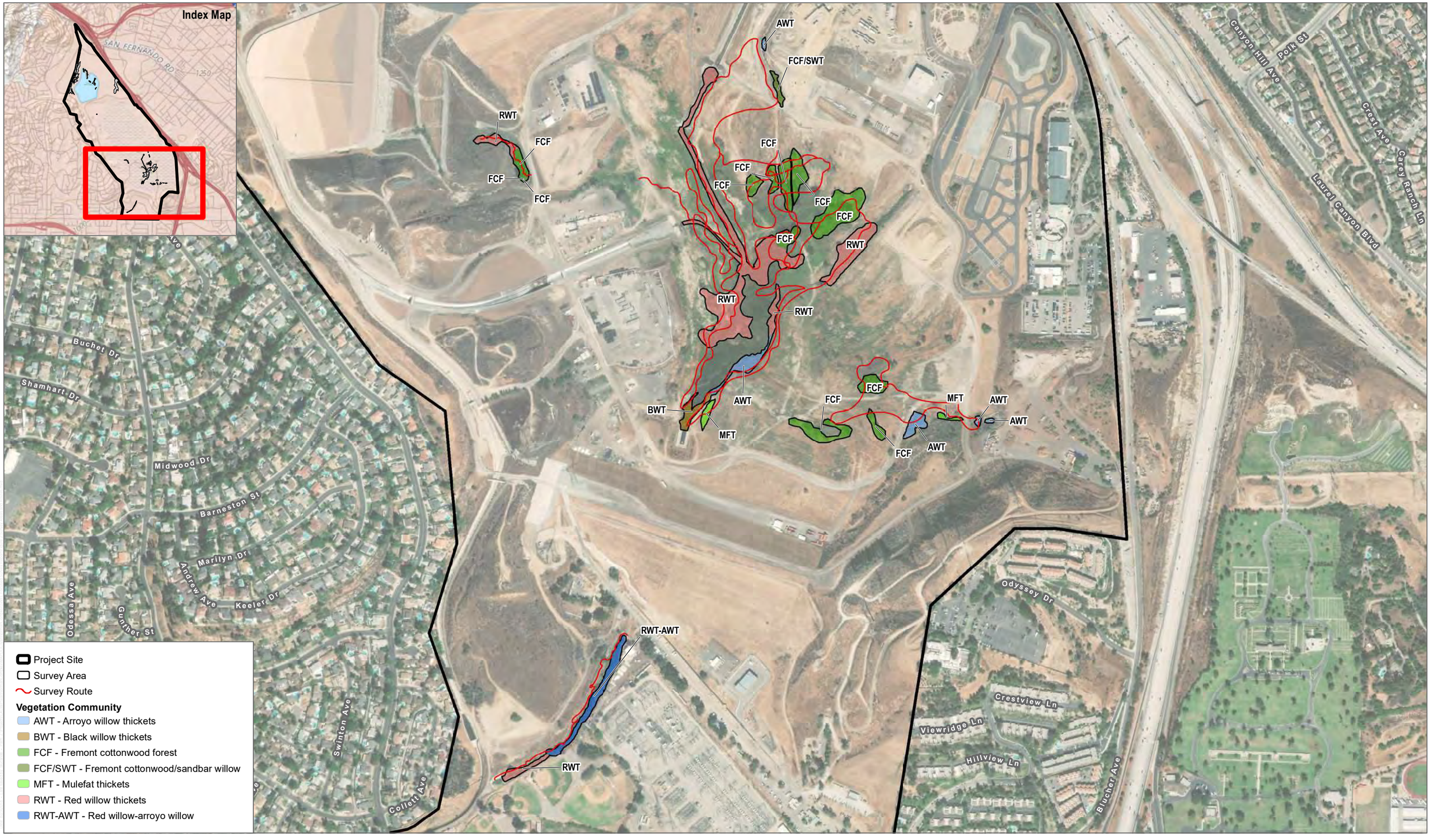
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

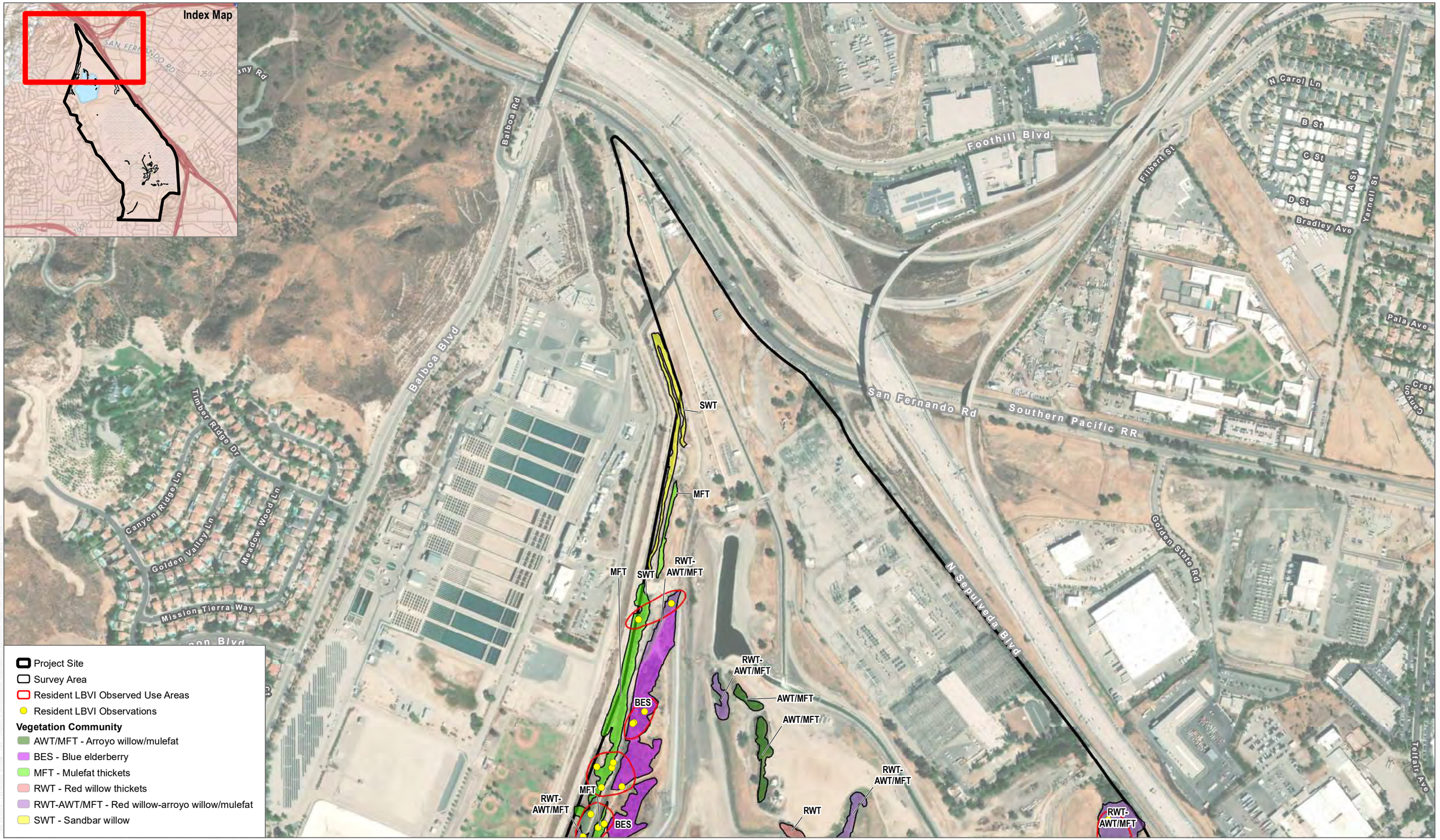
LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3A

Results

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

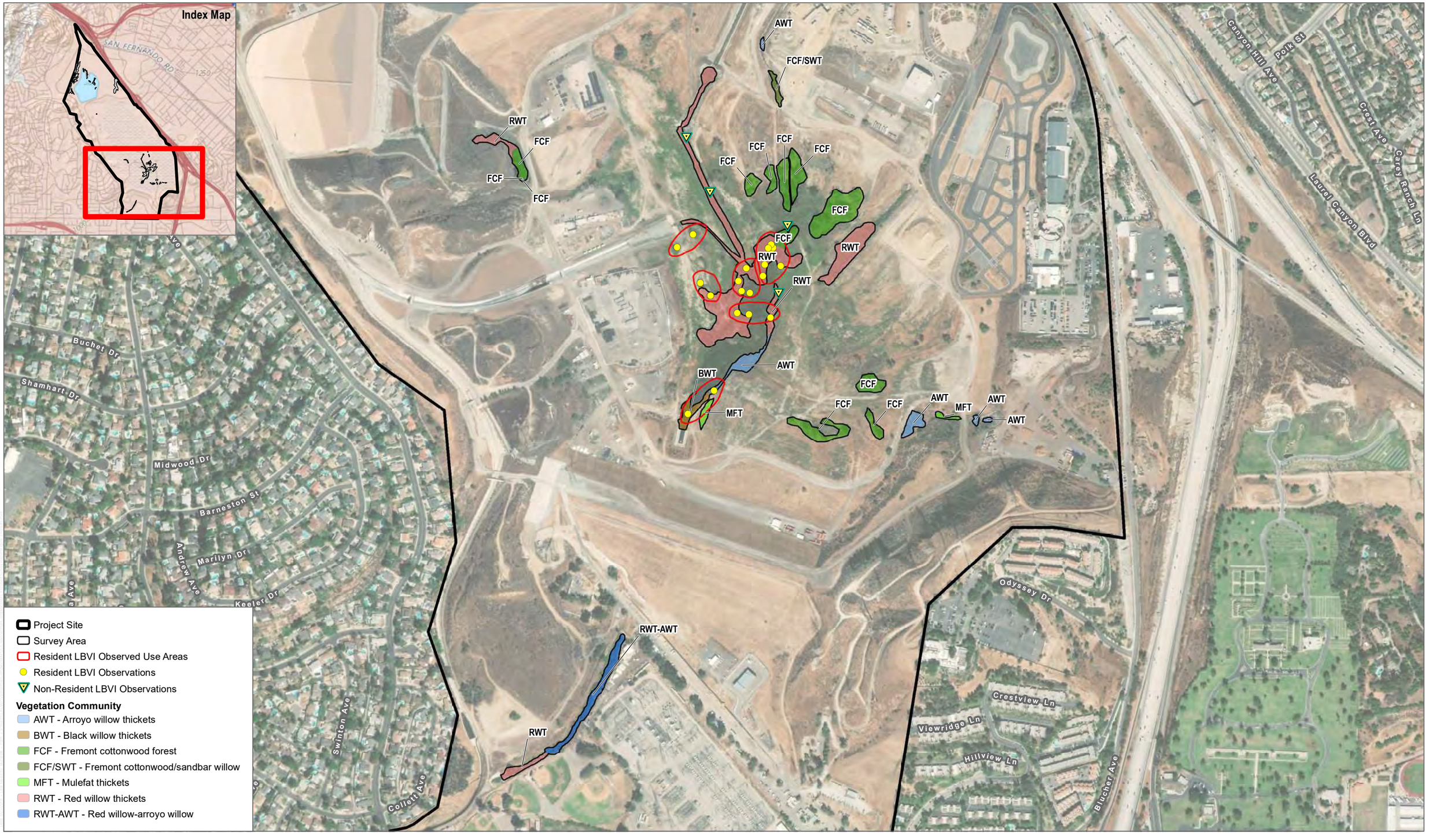
Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3B

Results

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3C

Results

LADWP Van Norman Complex

Appendix A

Wildlife Species Observed in Survey Area

AMPHIBIAN

FROGS

RANIDAE—TONGUELESS FROGS

* *Lithobates catesbeianus—American bullfrog*

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird
Euphagus cyanocephalus—Brewer's blackbird
Icterus cucullatus—hooded oriole
Quiscalus mexicanus—great-tailed grackle
Molothrus ater—brown-headed cowbird*

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Passerina amoena—lazuli bunting
Passerina caerulea—blue grosbeak
Pheucticus melanocephalus—black-headed grosbeak
Piranga ludoviciana—western tanager

CORMORANTS

PHALACROCORACIDAE—CORMORANTS

Phalacrocorax auritus—double-crested cormorant

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco peregrinus anatum—American peregrine falcon
Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch
Spinus lawrencei—Lawrence's goldfinch
Spinus psaltria—lesser goldfinch
Spinus tristis—American goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Empidonax traillii—willow flycatcher
Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Tyrannus vociferans—Cassin's kingbird
Sayornis saya—black phoebe

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk
Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret
Nycticorax nycticorax—black-crowned night-heron

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Archilochus alexandri—black-chinned hummingbird
Calypte anna—Anna's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

NEW WORLD VULTURES

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

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)
* *Streptopelia decaocto*—Eurasian collared-dove

RAILS, GALLINULES AND COOTS

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

ROADRUNNERS & CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

RECURVIROSTRIDAE—STILTS AND AVOCETS

Himantopus mexicanus—black-necked stilt

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow
Tachycineta bicolor—tree swallow
Tachycineta thalassina—violet-green swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

THRUSHES

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo
Vireo gilvus—warbling vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Cardellina pusilla—Wilson's warbler
Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler

WOODPECKERS

PICIDAE—WOODPECKERS AND ALLIES

Picoides nuttallii—Nuttall's woodpecker
Picoides pubescens—downy woodpecker

WRENS

TROGLODYTIDAE—WRENS

Salpinctes obsoletus—rock wren
Thryomanes bewickii—Bewick's wren
Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Chondestes grammacus—lark sparrow
Junco hyemalis—dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee

INVERTEBRATE

BUTTERFLIES

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES & SULFURS

Pieris rapae—cabbage white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

RATS, MICE, AND VOLES

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp.—woodrat

RACCOONS

PROCYONIDAE—RACCOONS AND RELATIVES

Procyon lotor—raccoon

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard
Uta stansburiana—common side-blotched lizard

Appendix B

Willow Flycatcher Survey and Detection Form

Appendix 1. Willow Flycatcher Survey and Detection Form

Always check the U.S. Fish and Wildlife Service Arizona Ecological Services Field Office web site (http://www.fws.gov/southwest/es/arizona/) for the most up-to-date version.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010)

Site Name LADWP - Van Norman Complex State CA County Los Angeles
USGS Quad Name San Fernando Elevation 1032 - 1270 ft (meters)
Creek, River, Wetland, or Lake Name Los Angeles Reservoir
Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? Yes X No ___

Survey Coordinates: Start: E 362449 N 3798252 UTM Datum 83 (See instructions)
Stop: E 363797 N 3794542 UTM Zone 11
If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.
***** Fill in additional site information on back of this page *****

Survey # / Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding; potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1 Observer(s) Brock Ortega	Date 5/30/18 Start 0615 Stop 1110 Total hrs 5	1	0	0	N		1		363325	3796801
Survey # 2 Observer(s) Paul Lemons	Date 6/8 Start 0630 Stop 1100 Total hrs 4.5	0	0	0	N	N/A	# Birds	Sex	UTM E	UTM N
Survey # 3 Observer(s) Jeff Priest	Date 6/14 Start 0600 Stop 1100 Total hrs 5	0	0	0	N	N/A	# Birds	Sex	UTM E	UTM N
Survey # 4 Observer(s) Melissa Blundell	Date 6/29 Start 0625 Stop 0942 Total hrs 3	0	0	0	N	N/A	# Birds	Sex	UTM E	UTM N
Survey # 5 Observer(s) Jeff Priest	Date 7/10 Start 0545 Stop 0945 Total hrs 4	0	0	0	N	N/A	# Birds	Sex	UTM E	UTM N

Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total Survey Hrs 21.5	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any Willow Flycatchers color-banded? Yes___ No ___ If yes, report color combination(s) in the comments section on back of form and report to USFWS.
		0	0	0	

Reporting Individual Brock Ortega Date Report Completed July 2018
US Fish and Wildlife Service Permit # TES13545-7 State Wildlife Agency Permit # ___

Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual Brock Ortega Phone # 760-479-4254
Affiliation Consultant - Dudek E-mail bortega@dudek.com
Site Name LAPWP - Van Norman Complex Date Report Completed July 2018

Did you verify that this site name is consistent with that used in previous years? Yes X No ____ Not Applicable ___
If site name is different, what name(s) was used in the past? ____
If site was surveyed last year, did you survey the same general area this year? Yes ___ No ___ If no, summarize below. N/A
Did you survey the same general area during each visit to this site this year? Yes X No ___ If no, summarize below.

Management Authority for Survey Area : Federal___ Municipal/County X State ___ Tribal ___ Private ___
Name of Management Entity or Owner (e.g., Tonto National Forest) Los Angeles Dept. of Water & Power

Length of area surveyed: 24.81 acres ~~(meters)~~

Vegetation Characteristics: Mark the category that best describes the predominant tree/shrub foliar layer at this site (check one):

X Native broadleaf plants (entirely or almost entirely, > 90% native, includes high-elevation willow)

___ Mixed native and exotic plants (mostly native, 50 - 90% native)

___ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

___ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.
Salix lasiolepis, Salix laevigata, Populus fremontii

Average height of canopy (Do not include a range): 10 (meters)

Attach copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections.
Attach sketch or aerial photo showing site location, patch shape, survey route, location of any WIFLs or WIFL nests detected.
Attach photos of the interior of the patch, exterior of the patch, and overall site; describe any unique habitat features.

Comments (attach additional sheets if necessary)

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM N	UTM E	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
1	5/30/18	3769880	363325	N	N	One-time observation

Attach additional sheets if necessary

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

August 13, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: ***Focused California Gnatcatcher Survey Report for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout areas of suitable habitat (i.e., brittle bush scrub, disturbed brittle bush scrub, California sagebrush scrub, California buckwheat scrub, coyote bush scrub) within and near the Los Angeles Department of Water and Power's (LADWP) proposed Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. Suitable habitat for CAGN is approximately 80 acres within the survey area. The project site is located in the City of Los Angeles, Los Angeles County, California. Dudek biologist Jeff Priest (TE840619-6) conducted CAGN surveys from May through June 2018.

The CAGN is a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

LOCATION AND EXISTING CONDITIONS

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several existing drainage facilities throughout the Van Norman Complex (VNC). The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that

cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. On-going vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP, and is located immediately northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey (USGS) 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level (AMSL) in the southern portion of the VNC to approximately 1,270 feet AMSL along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the survey area are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, Dam, debris basin, and water (USDA 2018).

VEGETATION COMMUNITIES

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable CAGN habitat within the survey area includes brittle bush scrub, California sagebrush scrub, and coyote bush scrub, described in detail below.

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
Upland Shrubland Alliances and Stands	
Brittle bush alliance (S 4)	73.1
Disturbed brittle bush alliance (not ranked)	0.25
California buckwheat alliance (S 5)	1.75

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
California sagebrush scrub (S 5)	0.25
Coyote bush scrub (S 5)	4.70
Total	**80.05**

Brittle Bush Scrub Alliance

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the VNC. Within the VNC, this vegetation community may also consist of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Mallosma laurina*), orange bush monkeyflower (Diplacus aurantiacus var. puniceus), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the VNC is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer. Disturbed brittle bush scrub habitat also occurs on-site, and is composed of a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

California Buckwheat Scrub Alliance

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse well-drained soils (Sawyer et al. 2009).

Within the VNC, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard also present.

Coyote Bush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This

vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Within the VNC, coyote brush scrub occurs along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush (*Artemisia californica*) in the shrub canopy with intermittent to continuous cover. The shrub canopy can either be less than 2 meters (7 feet) or in two tiers with a second layer that is typically less than 5 meters (16 feet). The herbaceous layer varies seasonally and annually (Sawyer et al. 2009).

Within the VNC, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage, and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

METHODS

The presence/absence focused survey for CAGN was conducted for the project between May 25 and June 29, 2018. The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. Critical habitat for this species is located approximately 0.5 mile northwest of the project site.

Table 2
Survey Dates and Conditions

Date	Personnel	Temperature	Wind	Sky	Time
05/25/18	Jeff Priest	56°F- 70°F	0-4 mph	90%-100% cc	0600–1200
06/01/18	Jeff Priest	58°F- 76°F	0-4 mph	0% cc	0600–1200
06/08/18	Jeff Priest	57°F- 85°F	0-5 mph	0% cc	0600–1200
06/15/18	Jeff Priest	58°F-83°F	0-5 mph	50% cc	0600–1200
06/22/18	Jeff Priest	63°F- 85°F	0-5 mph	0%-100% cc	0600–1200
06/29/17	Jeff Priest	57°F- 75°F	0-5 mph	100%-10% cc	0600–1200

* Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (USFWS 1997). The survey included six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80-acres of suitable habitat

were surveyed by a single biologist during each site visit. Survey routes are shown in Figure 2, and allowed for complete audible and visual coverage of all suitable CAGN habitat on site.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the site area was carried during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any CAGN present. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization-playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment.

RESULTS

No CAGN were observed within the LADWP VNC project site. A full list of bird species observed during the survey and within proximity of the survey area is provided in Attachment B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Jeff Priest
Permit # TE840619-6

Att: A, Figure 1, Project Map
Figure 2, Survey Routes
B, Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J. L. 1990. *Status review of the California gnatcatcher (Polioptila californica*). Unpublished technical report Manomet Bird Observatory, Manomet, Massachusetts. 79pp.

Braden, G.T, R.L. McKernan, and S.M. Powell. 1997. "Effects of Nest Parasitism by the Brown-Headed Cowbird on Nesting Success of the California gnatcatcher." Condor 99: 858–865.

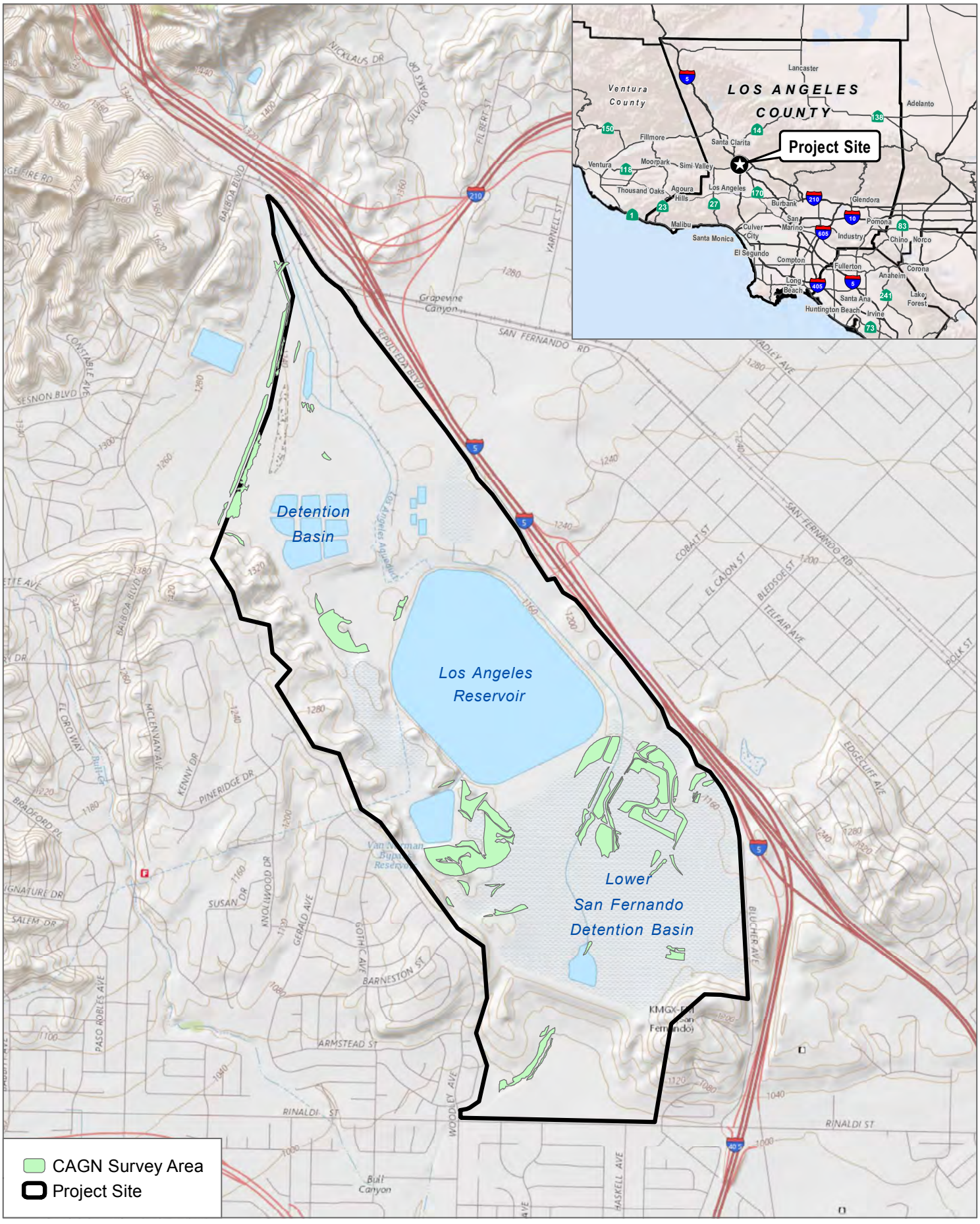
Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

USDA (U.S. Department of Agriculture), Soil Conservation Service, and West Los Angeles County Resource Conservation District in cooperation with University of California Agricultural Experiment Station. 1980. Soil Survey of Los Angeles County, California, West San Fernando Valley Area. Accessed May 2016. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/lawsfvaCA1980/lawsfvaCA1980.pdf.

USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Protocol*. July 28, 1997.

ATTACHMENT A

Figures 1–2



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

LA DWP Los Angeles Department of Water & Power

FIGURE 1

Project Location

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex

ATTACHMENT B

Compendium of Wildlife Species Observed or Detected

APPENDIX B
Compendium of Wildlife Species Observed or Detected

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Pipilo maculatus—spotted towhee

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

* *Streptopelia decaocto*—Eurasian collared-dove
Zenaida macroura—mourning dove

ROADRUNNERS AND CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Euphilotes battoides bernardino—Bernardino square-spotted blue

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Junonia coenia—common buckeye

RIODINIDAE—METALMARKS

Apodemia mormo virgulti—Behr's metalmark

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES AND SULFURS

Pieris rapae—cabbage white

Pontia protodice—checkered white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stanburiana—common side-blotched lizard

* signifies introduced (non-native) species

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Attachment B

Site Photographs

	
Photo 1: Facing northeast toward the Lower San Fernando Detention Basin	**Photo 2:** Upper Northeast Drainage
	
Photo 3: San Fernando Gate Drainage Feature	**Photo 4:** Yarnell Debris Basin

	
Photo 5: Riparian habitat and unvegetated drainage within the Upper Debris Basin	**Photo 6:** Riparian habitat and unvegetated drainage within the Middle Debris Basin
	
Photo 7: LAR North Dike Stormwater Basin	**Photo 8:** Facing northwest toward the Bee Drainage Channel

	
Photo 9: Bull Creek Extension	**Photo 10:** Facing southeast toward the central portion of the Upper San Fernando Drain Line and Upper San Fernando Drain Line Feature 1
	
Photo 11: Facing southwest toward the northern portion of the LAR UV Plant Drainage and V-ditch	**Photo 12:** San Fernando Creek

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Attachment C

Plant Compendium

VASCULAR SPECIES

DICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

* *Schinus molle*—Peruvian peppertree

Malosma laurina—laurel sumac

APIACEAE—CARROT FAMILY

* *Conium maculatum*—poison hemlock

* *Foeniculum vulgare*—sweet fennel

ASTERACEAE—SUNFLOWER FAMILY

* *Centaurea melitensis*—Maltese star-thistle

* *Lactuca serriola*—prickly lettuce

* *Sonchus asper* ssp. *asper*—spiny sowthistle

* *Sonchus oleraceus*—common sowthistle

Ambrosia acanthicarpa—flatspine bur ragweed

Artemisia californica—coastal sagebrush

Baccharis pilularis—coyotebrush

Centromadia pungens ssp. pungens—common tarweed

Encelia farinosa—brittlebush

Erigeron canadensis—Canadian horseweed

Helianthus annuus—common sunflower

Heterotheca grandiflora—telegraphweed

Baccharis salicifolia ssp. *salicifolia*—mulefat

BORAGINACEAE—BORAGE FAMILY

Heliotropium curassavicum var. oculatum—seaside heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard

* *Hirschfeldia incana*—shortpod mustard

* *Sisymbrium irio*—London rocket

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Chenopodium album*—lambsquarters

* *Salsola tragus*—prickly Russian thistle

CLEOMACEAE—CLEOME FAMILY

Peritoma arborea—bladderpod spiderflower

EUPHORBIACEAE—SPURGE FAMILY

* *Euphorbia peplus*—petty spurge

* *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

* *Melilotus albus*—yellow sweetclover

* *Parkinsonia aculeata*—Jerusalem thorn

Acmispon glaber var. *glaber*—common deerweed

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

LAMIACEAE—MINT FAMILY

* *Marrubium vulgare*—horehound

Salvia apiana—white sage

Salvia mellifera—black sage

MALVACEAE—MALLOW FAMILY

* *Malva parviflora*—cheeseweed mallow

Malvella leprosa – alkali mallow

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

PAPAVERACEAE—POPPY FAMILY

Ehrendorferia chrysantha—golden eardrops

PHRYMACEAE—LOPSEED FAMILY

Diplacus aurantiacus var. puniceus—orange bush monkeyflower

PLANTAGINACEAE—PLAINTAIN FAMILY

Plantago lanceolata – narrowleaf plantain

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum var. *foliolosum*—Eastern Mojave buckwheat

Persicaria lapathifolia – curlytop knotweed

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. *fremontii*—Fremont cottonwood

Salix exigua—narrowleaf willow

Salix laevigata—red willow

Salix lasiolepis—arroyo willow

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco
Datura wrightii—sacred thorn-apple
Solanum xanti—chaparral nightshade

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—saltcedar

URTICACEAE—NETTLE FAMILY

Urtica dioica—stinging nettle

MONOCOTS

ARECACEAE—PALM FAMILY

* *Washingtonia robusta*—Washington fan palm

CYPERACEAE—SEDGE FAMILY

Carex spp.—assorted *Carex* species
Cyperus eragrostis—tall flatsedge
Eleocharis macrostachya—pale spikerush
Schoenoplectus californicus—California bulrush

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed
* *Avena barbata*—slender oat
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis* ssp. *rubens*—red brome
* *Digitaria ciliaris var. ciliaris*—southern crabgrass
* *Hordeum murinum*—mouse barley
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Schismus barbatus*—common Mediterranean grass

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

* signifies introduced (non-native) species

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Attachment D

Wildlife Compendium

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES and ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS and ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Passerina caerulea—blue grosbeak

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus lawrencei—Lawrence's goldfinch

Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

RAILS, GALLINULES AND COOTS

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

Tachycineta bicolor—tree swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

TERNS AND GULLS

LARIDAE—GULLS, TERNS, AND SKIMMERS

Larus occidentalis—western gull

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

Oxyura jamaicensis—ruddy duck

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

Setophaga coronata—yellow-rumped warbler

Setophaga petechia—yellow warbler

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus audubonii—desert cottontail

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stansburiana—common side-blotched lizard

* signifies introduced (non-native) species

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Attachment E

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Astragalus brauntonii	Braunton's milk-vetch	FE/None/1B.1/None	Chaparral, coastal scrub, valley and foothill grassland; recent burns or disturbed areas, usually sandstone with carbonate layers/perennial herb/Jan–Aug/13–2,100	Not expected to occur. The coastal scrub habitat on site is extremely disturbed and suitable soils do not occur. Additionally, the closest CNDDB occurrence is over 10 miles southwest of the project site. Furthermore, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Atriplex parishii	Parish's brittlescale	None/None/1B.1/City	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–Oct/82–6234	Not expected to occur. No suitable habitat (i.e., vernal pool, chenopod scrub or playas) on site.
Berberis nevinii	Nevin's barberry	FE/CE/1B.1/City	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/Mar–June/230–2,707	Not expected to occur. The coastal and riparian scrub habitat on site is extremely disturbed. Additionally, this conspicuous evergreen shrub was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/(Feb) Mar–June/49–2,297	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus clavatus var. *clavatus*	club-haired mariposa lily	None/None/4.3/City	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; usually serpentinite, clay, rocky/perennial bulbiferous herb/May–June/246–4,265	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and the site lacks clay soils. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Calochortus clavatus var. *gracilis*	slender mariposa lily	None/None/1B.2/None	Chaparral, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/Mar–June/1,050–3,281	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus palmeri var. *palmeri*	Palmer's mariposa lily	None/None/1B.2/None	Chaparral, lower montane coniferous forest, meadows and seeps; mesic/perennial bulbiferous herb/Apr–July/2,329–7,841	Not expected to occur. The site is outside of the species' known elevation range.
Calochortus plummerae	Plummer's mariposa lily	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland; granitic, rocky/perennial bulbiferous herb/May–July/328–5,577	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks rocky soils preferred by this species Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calystegia peirsonii	Peirson's morning-glory	None/None/4.2/City	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland/perennial rhizomatous herb/Apr–June/98–4,921	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3/None	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar–May (June)/0–984	Not expected to occur. The site is outside of the species' known elevation range. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Canbya candida	white pygmy-poppy	None/None/4.2/None	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; gravelly, sandy, granitic/annual herb/Mar–June/1,969–4,790	Not expected to occur. The site lack suitable habitat for this species and is outside of the species' known elevation range.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1/City	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1,575	Not expected to occur. The marsh habitat on-site is too small and isolated to support this species. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Cercocarpus betuloides var. *blancheae*	island mountain-mahogany	None/None/4.3/None	Closed-cone coniferous forest, chaparral/perennial evergreen shrub/Feb–May/98–1,969	Not expected to occur. No suitable habitat on site. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC/CE/1B.1/City	Coastal scrub (sandy), valley and foothill grassland/annual herb/Apr–July/492–4,003	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Although a CNDDB occurrence overlaps with the project site, this element occurrence dates back to 1922 and is likely extirpated (CDFW 2018). Furthermore, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species. This species was also not observed during focused surveys for this species in 2017 within a portion of the study area.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/98–2,297	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks suitable clay, serpentinite seeps preferred by this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Deinandra minthornii	Santa Susana tarplant	None/CR/1B.2/None	Chaparral, coastal scrub; rocky/perennial deciduous shrub/July–Nov/919–2,493	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species is only known to occur in Santa Monica and the Santa Susana Mountains and is a conspicuous perennial deciduous shrub that would likely have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Deinandra paniculata	paniculate tarplant	None/None/4.2/None	Coastal scrub, valley and foothill grassland, vernal pools; usually vernally mesic, sometimes sandy/annual herb/Apr–Nov/82–3,084	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks vernally mesic conditions suitable for this species.
Delphinium parryi ssp. *purpureum*	Mt. Pinos larkspur	None/None/4.3/None	Chaparral, Mojavean desert scrub, pinyon and juniper woodland/perennial herb/May–June/3,281–8,530	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
Dodecahema leptoceras	slender-horned spineflower	FE/CE/1B.1/City	Chaparral, cismontane woodland, coastal scrub (alluvial fan); sandy/annual herb/Apr–June/656–2,493	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Further the site lacks alluvial fans associated with this species. The closest CNDDB occurrence is approximately 2 miles southeast of the project site, dates back to 1937, and is considered extirpated (CDFW 2018).
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1/None	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1,476	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks rocky, clay, or serpentinite soils preferred by this species.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2/None	Chaparral, coastal scrub, valley and foothill grassland; often clay/perennial herb/Apr–July/49–2,592	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks clay soils with which the species is associated.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
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	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks clay soils preferred by this species.
Helianthus inexpectatus	Newhall sunflower	None/None/1B.1/None	Marshes and swamps, riparian woodland; freshwater, seeps/perennial rhizomatous herb/Aug–Oct/1,001	Not expected to occur. The marsh and riparian woodland habitat on site is too isolated and disturbed for this species. In addition, the closest CNDDB is over 10 miles northeast of the project site, where it is known solely to occur at Newhall Ranch (CDFW 2018). Furthermore, this is a conspicuous perennial rhizomatous herb that would have likely been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Heuchera caespitosa	urn-flowered alumroot	None/None/4.3/None	Cismontane woodland, lower montane coniferous forest, riparian forest (montane), upper montane coniferous forest; rocky/perennial rhizomatous herb/May–Aug/3,789–8,694	Not expected to occur. The site is outside of the species' known elevation range.
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	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks saline flats and depressions.
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	Low potential to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Hulsea vestita ssp. *gabrielensis*	San Gabriel Mountains sunflower	None/None/4.3/City	Lower montane coniferous forest, upper montane coniferous forest; rocky/perennial herb/May–July/4,921–8,202	Not expected to occur. The site lacks suitable habitat for this species and is outside of the species' known elevation range.
Hulsea vestita ssp. *parryi*	Parry's sunflower	None/None/4.3/None	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest; granitic or carbonate, rocky, openings/perennial herb/Apr–Aug/4495–9,498	Not expected to occur. The site lacks suitable habitat for this species and is outside of the species' known elevation range.
Juglans californica	Southern California black walnut	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub; alluvial/perennial deciduous tree/Mar–Aug/164–2,953	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species is a conspicuous deciduous tree that would have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
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	Not expected to occur. The marsh habitat on site is too small and isolated to support this species, and the site lacks playas and vernal pools.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3/None	Chaparral, coastal scrub/annual herb/Jan–July/3–2,904	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. The closest CNDDB occurrence is over 4 miles from the project site and dates back to 1917 (CDFW 2018). Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; openings/perennial bulbiferous herb/Mar–July (Aug)/98–5,906	Not expected to occur. The coastal scrub and riparian woodland habitat on site is extremely disturbed; the site lacks the habitat with which this species is associated.
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	Not expected to occur. The site is outside of the species' known elevation range.
Lupinus paynei	Payne's bush lupine	None/None/1B.1/None	Coastal scrub, riparian scrub, valley and foothill grassland; sandy/perennial shrub/ Mar-Apr (May-Jul)/722–1,378	Not expected to occur. The coastal scrub, riparian scrub, and grassland habitat on site is extremely disturbed. Additionally, this species is a conspicuous perennial shrub that would likely have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Malacothamnus davidsonii	Davidson's bush-mallow	None/None/1B.2/City	Chaparral, cismontane woodland, coastal scrub, riparian woodland/perennial deciduous shrub/June–Jan/607–2,805	Not expected to occur. The coastal scrub and riparian woodland habitat on site is extremely disturbed. Additionally, this species is a perennial deciduous shrub that would have been detected during the general biological reconnaissance survey conducted in May 2018.
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	Not expected to occur. The site lacks suitable habitat (i.e., chaparral, cismontane woodland) for this species.
Navarretia fossalis	spreading navarretia	FT/None/1B.1/None	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2,149	Not expected to occur. The marsh habitat on-site is too small and isolated to support this species and the site lacks playas and vernal pools with which this species is associated.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Navarretia setiloba	Piute Mountains navarretia	None/None/1B.1/None	Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland; clay or gravelly loam/annual herb/Apr–July/935–6,890	Not expected to occur. The grassland habitat on site is extremely disturbed and lacks open clay areas preferred by this species. The closest CNDDB occurrence is over 8 miles from the project site (CDFW 2018).
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2/None	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland/perennial stem succulent/Apr–June (Aug)/1,394–5,906	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
Orcuttia californica	California Orcutt grass	FE/CE/1B.1/City	Vernal pools/annual herb/Apr–Aug/49–2,165	Not expected to occur. The habitat on-site lacks vernal pools preferred by this species.
Phacelia hubbyi	Hubby's phacelia	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; gravelly, rocky, talus/annual herb/Apr–July/0–3,281	Not expected to occur. The habitat on site for this species is extremely disturbed and lacks gravelly, rocky soils preferred by this species.
Phacelia mohavensis	Mojave phacelia	None/None/4.3/None	Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; sandy or gravelly/annual herb/Apr–Aug/4,593–8,202	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
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	Low potential to occur. The site is located within the species' known elevation range and there is limited habitat on site; however, it is extremely disturbed. In addition, the closest CNDDB occurrence is over 7.5 miles southeast of the project site and dates back to 1932 (CDFW 2018). Furthermore, this conspicuous perennial herb would likely have been detected during the general biological reconnaissance survey conducted in May 2018.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Quercus durata var. *gabrielensis*	San Gabriel oak	None/None/4.2/None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr–May/1,476–3,281	Not expected to occur. The site lacks suitable cismontane woodland and chaparral habitat and is outside of the species' known elevation range.
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr (May)/49–2,625	Low potential to occur. The coastal scrub habitat on site is extremely disturbed and lacks alkaline soils. The closest CNDDB occurrence is over 6 miles north of the project site and dates back to 1901 (CDFW 2018).
Spermolepis lateriflora	western bristly scaleseed	None/None/2A/None	Sonoran desert scrub; rocky, sandy/annual herb/Mar–Apr/1,198–2,198	Not expected to occur. The site lacks suitable habitat for this species.
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	Low potential to occur. The site is located within the species' known elevation range; however, the limited habitat on site is extremely disturbed. In addition, the closest CNDDB occurrence is over 4.5 miles north of the project site and dates back to 1918 (CDFW 2018).

Status Legend
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
State
CE: State listed as endangered
CRPR: California Rare Plant Rank
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
Threat Rank
.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
City: Species locally designated or recognized by the City of Los Angeles, Northwest Valley Planning Subregion

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Attachment F

Special-Status Wildlife Species Potential to Occur

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Amphibians				
western spadefoot	*Spea hammondii*	None/SSC/City	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	Low potential to occur. The coastal scrub habitats on site lack ephemeral wetlands suitable for this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
arroyo toad	*Anaxyrus californicus*	FE/SSC/City	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 drainages on site do not provide suitable habitat (i.e., terraces and stream braiding of third order or higher) to support breeding for this species.
southern mountain yellow-legged frog	*Rana muscosa*	FE/SE, SSC/City	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral	Not expected to occur. Although drainages occur within the proposed project site, these drainages lack rocky canyons typically preferred by this species.
California newt	*Taricha torosa (Monterey Co. south only)*	None/SSC/None	Wet forests, oak forests, chaparral, and rolling grassland	Low potential to occur. Ponds and drainages on site have the potential to provide suitable breeding habitat for this species; however, the surrounding forest and grassland habitats are extremely disturbed. Documented occurrence within 5 miles of the project site (CDFW 2018).
Reptiles				
California legless lizard	*Anniella sp.*	None/SSC/None	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Low potential to occur. Drainages, scrub habitat, and riparian woodlands on site have the potential to support this species; however, no documented occurrences occur within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Blainville's horned lizard	*Phrynosoma blainvillii*	None/SSC/City	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	Moderate potential to occur. Riparian and scrub habitat on-site with loose sandy soils have the potential to support this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
San Diegan tiger whiptail	*Aspidoscelis tigris stejnegeri*	None/SSC/None	Open areas in semiarid grasslands, scrublands, and woodlands	Moderate potential to occur. Open scrublands and Fremont cottonwood forest habitats on site have the potential to support this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
two-striped gartersnake	*Thamnophis hammondii*	None/SSC/City	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Low potential to occur. Ponds and other permanent water sources on site could support this species; however, no documented occurrences for this species within 5 miles of the project site (CDFW 2018).
southwestern pond turtle	*Actinemys pallida*	None/SSC/City	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Low potential to occur. Ponds and other permanent water sources on site could support this species; however, the closest documented occurrence is over 5 miles from the project site and is considered extirpated (CDFW 2018).
California glossy snake	*Arizona elegans occidentalis*	None/SSC/None	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Low potential to occur. Open sandy areas with scattered brush on site could support this species; however, no documented occurrence for this species within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Birds				
burrowing owl (burrow sites and some wintering sites)	*Athene cunicularia*	BCC/SSC/City	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Soils within grassland and open scrub habitats on-site are compacted and lack suitable burrows to support this species. Additionally, this species was not recorded breeding anywhere in the Los Angeles Basin during the *Los Angeles County Breeding Bird Atlas* field work in 1995 to 1999 (Allen et al. 2016). No documented occurrences within 5 miles (CDFW 2018).
grasshopper sparrow (nesting)	*Ammodramus savannarum*	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. Limited grassland habitat on-site is extremely disturbed with minimal shrubs for perches. Additionally, this species was not detected during the biological reconnaissance survey conducted in May 2018 survey, and there are no documented occurrences within 5 miles (CDFW 2018).
loggerhead shrike (nesting)	*Lanius ludovicianus*	BCC/SSC/City	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Moderate potential to occur. Open Fremont cottonwood forest and shrublands on site could provide suitable foraging and nesting habitat for this species. In addition, this species was observed during a previous focused survey effort conducted in July 2017 within the Van Norman Complex. No nests were detected during the 2017 surveys.
Swainson's hawk (nesting)	*Buteo swainsoni*	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	Not expected to occur. Although the site contains Fremont cottonwood adjacent to a disturbed field that could provide suitable foraging and nesting habitat for this species, this species is likely extirpated from the area. It is currently known to only occur in the region during migration (CDFW 2018). The closest known nesting area is in the Antelope Valley, approximately 25 miles from the project site.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
tricolored blackbird (nesting colony)	*Agelaius tricolor*	BCC/ST/None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to nest and forage. The cattail marsh habitat on site is too small without suitable grassland or agricultural fields to support a nesting colony of this species. No documented occurrences within 5 miles of the project site (CNDDB 2018).
Cooper's hawk (nesting)	*Accipiter cooperii*	None/WL/City	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Moderate potential to nest and forage. Suitable riparian woodland and adjacent open areas occur on site. However, not detected within the study area during May 2018 surveys.
coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC/City	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. Although much of the coastal scrub on site consists of fragmented, monotypic stands of brittle bush too small and disturbed to typically support this species, some portions of coastal scrub on site could provide suitable habitat for this species. Protocol focused surveys were negative for this species.
least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE/SE/City	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	Present. Suitable riparian habitat occurs within the project site. This species was detected during the general reconnaissance survey conducted in May 2018 and during focused protocol surveys in 2018.
southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE/SE/City	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Minimal suitable dense riparian habitat with well-developed understory occurs on-site, this species was recently documented to occur 5.2 miles southeast of the Project site within the Hansen Dam (USFWS 2018). Focused surveys conducted in 2018 were negative.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
white-tailed (nesting) kite	*Elanus leucurus*	None/FP/City	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 nest. The Freemont cottonwood trees on site provide limited suitable habitat for this species; however, this species may occasionally forage within the adjacent disturbed, open areas. No nests for this species were observed during the general reconnaissance survey conducted in May 2018. No documented occurrences within 5 miles of the project site (CDFW 2018).
prairie falcon (nesting)	*Falco mexicanus*	BCC/WL/City	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Low potential to occur. There are no cliffs or bluffs suitable for nesting within the facility site. However, this species may occasionally forage within the study area.
southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	None/WL/City	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Low potential to occur. Coastal scrub habitat along hillsides within the study area has the potential to provide suitable habitat for this species; however, this is a common year-round resident that would have been detected during May 2018 surveys, if present. No documented occurrences within 5 miles of the project site (CDFW 2018).
Bell's sage sparrow	*Artemisiospiza belli belli*	BCC/WL/City	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	Low potential to occur. This species prefers large unfragmented patches of coastal scrub dominated by chamise, which does not occur on site. The lack of contiguous habitat and small size of the shrubs makes it unlikely for this species to occur.
California horned lark	*Eremophila alpestris actia*	None/WL/City	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada	Low potential to occur. Limited suitable habitat for this species on site. Additionally, this species was not detected during the May 2018 surveys, if present. No documented occurrences within 5 miles of the project site (CDFW 2018).
western yellow-billed cuckoo (nesting)	*Coccyzus americanus occidentalis*	FT, BCC/SE/City	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. No suitable dense riparian habitat with well-developed understory occurs on site or within the study area.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Fishes				
arroyo chub	*Gila orcuttii*	None/SSC/City	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. The channels on site are man-made and ephemeral, and do not provide enough water to support this species.
Santa Ana sucker	*Catostomus santaanae*	FT/SSC/City	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 site is outside of the species' known geographic range.
Santa Ana speckled dace	*Rhinichthys osculus* ssp. 3	None/SSC/City	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.
unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	FE/SE, FP/City	Slow-moving and backwater areas	Not expected to occur. The channels on site are man-made and ephemeral, and do not provide enough water to support this species.
Mammals				
San Diego desert woodrat	*Neotoma lepida intermedia*	None/SSC/City	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Low potential to occur. Coastal scrub habitat occurs in the study area; however, woodrat middens were not detected on site during reconnaissance-level surveys conducted in May 2018.
big free-tailed bat	*Nyctinomops macrotis*	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 roost and forage. The Freemont cottonwood trees within the Lower San Fernando Detention Basin provides limited habitat for this species; however, suitable cavities were not identified during the site visit. No documented occurrences within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
pallid bat	*Antrozous pallidus*	None/SSC/City	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to roost and forage. Project site is disturbed, lacking suitable habitat (i.e., rocky outcrops) to support this species. The Freemont cottonwood trees within the Lower San Fernando Detention Basin provides limited habitat for this species. No documented occurrences within 5 miles of the project site (CDFW 2018).
American badger	*Taxidea taxus*	None/SSC/None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Open grasslands and scrub habitat on site lack friable soils suitable for this species. Additionally, suitable burrows for this species were not detected during the reconnaissance-level surveys conducted in May 2018.
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	None/SSC/City	Lower-elevation grassland, alluvial sage scrub, and coastal scrub	Low potential to occur. Coastal scrub habitat (i.e., brittle bush scrub) occurs on site; however, suitable burrows were not identified during the site visit conducted in May 2018. No occurrences within 5 miles of project site (CDFW 2018).
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	None/SSC/City	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. Open coastal scrub habitat for this species occurs on site; however, this species was not detected during the reconnaissance-level surveys during May 2018. No documented occurrences within 5 miles (CDFW 2018).
southern grasshopper mouse	*Onychomys torridus ramona*	None/SSC/City	Grassland and sparse coastal scrub	Low potential to occur. Grassland and sparse coastal scrub habitat occurs on-site; however, suitable burrows were not identified during the site visits conducted in May 2018. No documented occurrences within 5 miles (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
spotted bat	*Euderma maculatum*	None/SSC/None	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Not expected to roost and low potential to forage. The project site lacks suitable roosting habitat (i.e., rock crevices and cliffs) that could support this species.
Townsend's big-eared bat	*Corynorhinus townsendii*	None/SCT, SSC/City	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Low potential to roost, moderate potential to forage. This species is extremely sensitive to disturbance and unlikely to roost within the well-trafficked man-made structures on site. Closest documented occurrence is approximately 4.3 miles east of the project site (CDFW 2018).
western mastiff bat	*Eumops perotis californicus*	None/SSC/City	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 roost, moderate potential to forage. No suitable roosting habitat (i.e. tunnels, vertical cliffs, deciduous forest) exists within the project site. This species could occasionally forage in the Freemont cottonwood forest habitat within the study area.
western yellow bat	*Lasiurus xanthinus*	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	Low potential to roost and forage. This species prefers desert riparian and palm habitat not present on-site. Additionally, this species has not been documented within 5 miles of the project site (CDFW 2018).
Californian leaf-nosed bat	*Macrotus californicus*	None/SSC/City	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings	Low potential to roost, moderate potential to forage. No suitable roosting habitat (i.e., mines, caves, buildings) exists within the project facilities on-site; however, this species has the potential to forage within the Freemont cottonwood habitat within the Lower San Fernando Detention Basin.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Invertebrates				
vernal pool fairy shrimp	*Branchinecta lynchi*	FT/None/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. The site is outside of the species' known geographic range and no vernal pools were documented on site.

Status Legend

Federal

- FE: Federally Endangered
- FT: Federally Threatened
- BCC U. S. Fish & Wildlife Service Birds of Conservation Concern
- TH American Fisheries Society - Threatened
- VU American Fisheries Society - Vulnerable

State

- SCT: State candidate for listing as threatened)
- FP: California Fully Protected species
- SE: State listed as endangered
- ST: State listed as 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

Species locally designated or recognized by the City of Los Angeles, Northwest Valley Planning Subregion

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Attachment G

Avoidance and Minimization Measures

Avoidance and Minimization Measures

The Los Angeles Department of Water and Power (LADPW) implements the avoidance and minimization measures listed below to avoid or minimize adverse impacts to fish and wildlife resources during maintenance activities associated with the Van Norman Complex (VNC) Ongoing Maintenance Program.

AMM-1 Resource Protection

Designated Biologist. A Designated Biologist monitors all ground- or vegetation-disturbing activities within sensitive habitat or aquatic areas in the VNC. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources and able to identify those resources present at the VNC. The Designated Biologist works with the operations and maintenance manager to halt or redirect any activity to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. The Designated Biologist will confirm that maintenance activities in riparian areas occur no more than once every three years. The Designated Biologist will also confirm that maintenance within blue elderberry stands is limited to the understory and lower limbs of blue elderberry trees are pruned with hand tools.

Leave Wildlife Unharmed. The Designated Biologist is present during all vegetation-removal and rough grading activities to monitor for non-listed, special-status, and/or common ground-dwelling vertebrates encountered in the path of project-related activities. The Designated Biologist makes every effort to relocate the species out of harm's way to the extent feasible by doing one of the following:

1. Use shovel, rake, or similar hand tool to gently re-direct the animal out of work area;
2. Install silt fence or other exclusionary fencing to prevent species from re-entering disturbance area; or
3. If the Designated Biologist has the appropriate handling permits, he/she may capture/relocate species to appropriate habitat outside the disturbance area.

The Designated Biologist works with the operation and maintenance manager to temporarily halt or redirect activities until the species is determined to be out of harm's way. Any exclusionary devices is checked by a biological monitor on a weekly basis to check/ensure continued exclusionary device effectiveness.

Bird Breeding/Nesting Period. LADWP makes every effort to conduct project activities outside of the bird breeding/nesting season from February 1 through September 15 to avoid impacts to breeding/nesting birds. If work cannot be avoided, then the Designated Biologist will conduct two focused surveys for breeding/nesting birds no earlier than 3 days prior to the beginning of project-related activities. If any nests are found, the Designated Biologist implements an avoidance buffer to ensure activities do not affect the nest. The breeding habitat/nest site is fenced and/or flagged in all directions, and this area is not be disturbed until the nest becomes inactive; the young have fledged; the young are no longer being fed by the parents; the young have left the area; and the young will no longer be impacted by the project as determined by the Designated Biologist.

Pre-Activity Surveys. The Designated Biologist conducts a pre-activity general biological survey for species of concern, including western spadefoot toad, likely to be found in the area or using the area to forage during the proposed maintenance activities. The surveys are conducted within 1 week prior to start of work. Survey limits are determined by the Designated Biologist and include all areas within the project footprint. Should any species of concern be found, the LADWP shall develop and implement a plan for the protection of these species.

AMM-2 Habitat Protection

Demarcate Work Area Boundary. In consultation with the Designated Biologist, LADWP will demarcate the outer perimeter of the work area to prevent damage to adjacent habitat and to provide visual orientation to its limits. Marking will be in place during all periods of operation. All persons employed or otherwise working on the project site will be instructed about the restrictions that the marking represents. LADWP will remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.

Hours of Operation and Lighting. LADWP's maintenance activities take place during daylight hours only. No night work or lights are authorized.

AMM-3 Placement of In-Stream Structures

Stranded Aquatic Life. When water is present, the Designated Biologist checks daily for stranded aquatic life until the water level no longer supports aquatic organisms. All reasonable efforts will be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life will be released immediately in the closest body of water adjacent to the work site.

Unauthorized Materials. Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life will be removed prior to inundation by high flows.

Excavation Spoils. No castings or spoil from the excavation operations will be placed on the stream side of the project site. Spoil storage sites will not be located within a stream, where spoils can be washed back into a stream, or where they will cover aquatic or riparian vegetation.

AMM-4 Turbidity and Siltation

Erosion Control Measures. LADWP uses erosion control measures as specified in the Storm Water Pollution Plan (SWPPP) or Best Management Plan (BMP) prepared by LADWP's Wastewater group Qualified Stormwater Developer (QSD) throughout all phases of operation where sediment runoff from exposed slopes threatens to enter a river, stream, or lake. Any type of erosion control blanket or other product will not use plastic and will be weed-free. If netting is to be used, it must be flexible (e.g., "soft" hemp) so that snakes or other animals do not become trapped in the netting.

Sediment and Runoff Control. Sediment from project-related activities are not be placed in seasonally dry portions of the stream where it might likely be washed into the stream or inundated by high flows, or where it is likely to have a negative impact on emergent native vegetation, or where it is likely to have a negative impact on native trees. Preparation will be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little

erosion potential. Frequent water checks will be placed on dirt roads, cat tracks, or other work trails to control erosion.

Contaminated Site Water. Water containing mud, silt, or other pollutants from equipment washing or other activities will not be allowed to enter a flowing stream, a dry ephemeral stream, or into storm drains. Such water will be settled, filtered, or otherwise treated prior to discharge back into the water body.

Minimize Turbidity and Siltation. LADWP takes precautions to minimize turbidity/siltation during maintenance and post-maintenance periods. Precautions include, but are not limited to, pre-activity planning to identify site-specific turbidity and siltation minimization measures and best management erosion control practices; best management erosion control practices during project activity; and settling, filtering, or otherwise treating silty and turbid water prior to discharge into a stream or storm drain.

AMM-5 Equipment and Access

Staging and Vehicle Storage. Staging/storage areas for equipment and materials will be located outside of the stream in an area selected due to its non-vegetated status.

AMM-6 Pollution, Litter and Cleanup

Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the ephemeral drainage will be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat. All refueling and maintenance of equipment and vehicles will be at least 150 feet from any aquatic habitat, wetland area, water body, or ephemeral drainages. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream, lake or ephemeral drainage will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as extra boom, absorbent pads, skimmers, will be on site prior to the start of project-related activities.

Pollutants and Debris. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, waste, cement or concrete or washings thereof, asphalt, paint, oil or other petroleum products or any other substances which could be hazardous to aquatic life, or other organic or earthen material from any project-related activity will be allowed to contaminate the soil and/or enter into or placed where it may be washed by rainfall or runoff into, any stream/channel/culvert/ditch. Any of these materials, placed within or where they may enter a stream/channel/culvert/ditch, by LADWP or any party working under contract, or with the permission of LADWP, will be removed immediately. When project-related activities are completed, any excess materials or debris will be removed from the work area. No rubbish will be deposited within 150 feet of the high water mark of any stream.

Pollution Compliance. LADWP will comply with all litter and pollution laws. All contractors, subcontractors, and employees will also obey these laws, and it will be the responsibility of the LADWP to ensure compliance.

Trash Receptacles. LADWP will install and use fully covered trash receptacles with secure lids (wildlife proof) that contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash generated by work force personnel. Following maintenance activities, all trash and maintenance debris will be removed from the project site.

Remove Temporary Flagging, Fencing, and Barriers. LADWP will remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.

AMM-7 Exotic Species Removal and Control

LADWP will also perform exotic species removal and control as defined by the following measures.

Remove Invasive Vegetation by Hand. Whenever practicable, invasive species will be removed by hand or by hand-operated power tools rather than by chemical means. Where chemical control of non-native vegetation is deemed necessary within the bed, bank, or channel of the stream, and there is a possibility that the herbicides could contact water, LADWP will employ only those herbicides that are approved for aquatic use. If surfactants are required, they will be restricted to non-ionic chemicals that are approved for aquatic use. All herbicide use conditions for mixing, application, and clean-up will conform to all applicable federal, state, and local regulations. Any application of herbicide will be done by a licensed or certified applicator in accordance with all applicable, federal, state, and local regulations. Herbicides will be used only for selective treatment of non-native vegetation identified as invasive by California Invasive Plant Council.

Invasive Plant Control/Eradication. To minimize the spread of invasive plant species to uninfested areas within and outside of the project site, LADWP implements control and eradication activities prior to the initiation of ground-disturbing activities. LADWP utilizes control and eradication methods that are specific to the target species, avoid the spread and proliferation of other invasive plant species, and minimize damage to and/or removal of native plant species. All non-native and invasive plants controlled or eradicated at the project site will be removed and disposed of in a manner that prevents the introduction and establishment of those species to new areas.

Invasive Species. LADWP will conduct project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria), from one project site and/or watershed to another. Prevention best management practices and guidelines for invasive plants can be found on the California Invasive Plant Council's website (http://www.cal-ipc.org/ip/prevention/index.php).

Prevention best management practices and guidelines for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website (http://www.protectyourwaters.net/).

Inspection of Project Equipment. LADWP inspects all vehicles, tools, waders and boots, and other project-related equipment and removes all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the stream and/or between each use in different watersheds.

Decontamination of Project Equipment. LADWP decontaminates all tools, waders and boots, and other equipment that will enter the streambed and make contact with water or wetted soils prior to entering and after exiting the stream.

If decontamination for aquatic invasive animal species is applicable, LADWP will decontaminate project gear and equipment utilizing one of three methods: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. For all methods, LADWP will begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, LADWP will allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, LADWP will immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes.

To decontaminate by freezing, LADWP will place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment and clothing is removed from the site, used within a different watersheds, and returned to the project site.

Decontamination of Vehicles and Equipment. If decontamination for aquatic invasive animal species is applicable, LADWP will decontaminate vehicles and other project-related equipment too large to immerse in a hot water bath by pressure washing with hot water a minimum of 140°F at the point of contact or 155°F at the nozzle. Additionally, LADWP will flush watercraft engines and all areas that could contain standing water (e.g., storage compartments) for a minimum of 10 minutes. Following the hot water wash, LADWP will dry all vehicles, watercraft, and other large equipment as thoroughly as possible.

Decontamination Sites. If decontamination for aquatic invasive animal species is applicable, LADWP will perform decontamination of vehicles, watercraft, and other project gear and equipment in a designated location where runoff can be contained and not allowed to pass into drainage areas and other sensitive habitat areas.

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APPENDIX C

Cultural Report

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January 7, 2019 10649.33

Christopher Lopez
Environmental Planning and Assessment
Los Angeles Department of Water and Power
111 N. Hope Street, Room 1044
Los Angeles, California 90012
213.367.6376

Subject: Section 106-Compliant Cultural and Paleontological Resources Letter Report in Support of the Van Norman Complex Routine Maintenance Project, Los Angeles City, Los Angeles County, California

Dear Mr. Lopez:

This cultural resources letter report provides the results of a cultural and paleontological resources assessment for the approximate 2.1-square-mile (1,340-acre) Los Angeles Department of Water and Power (LADWP) Van Norman Complex Routine Maintenance Project (proposed project), located in the City of Los Angeles, in Los Angeles County, California.

This cultural and paleontological resources study included the following components: (1) a California Historical Resources Information System records search covering the proposed project sites plus a 1-mile radius at the South Central Coast Information Center (SCCIC), (2) a review of the California Native American Heritage Commission's (NAHC's) Sacred Lands File, (3) a paleontological records search of the Natural History Museum of Los Angeles County's (LACM's) fossil localities, (4) a Phase I pedestrian survey of the project area for cultural and paleontological resources, and (5) recommendations.

This study is compliant with federal regulations under Section 106 of the National Historic Preservation Act (NHPA) to assist the U.S. Army Corps of Engineers with its permitting obligations. In addition, this study is in compliance with California Public Resources Code (PRC) Section 5024.1, Sections 21083.2 and 21084.1 of the California Environmental Quality Act (CEQA) (California PRC, Section 21000 et. seq.), and Section 15064.5 of the CEQA Guidelines (14 CCR 15000 et seq.). PRC Section 5024.1 requires the identification and evaluation of historical resources that may be affected by a proposed project.

Project Location and Description

LADWP seeks to perform routine operation and maintenance activities in and around various earthen and concrete-lined drainage facilities throughout the Van Norman Complex (VNC) in order to ensure that the facilities are functioning properly. Due to the unique characteristics at each facility, the specific activities performed would vary on a site-by-site basis. However, the activities can generally be characterized as vegetation management-type activities, which include removing overgrown vegetation and accumulated sediment and mowing herbaceous vegetation. These maintenance activities would occur annually, or on an as-needed basis and would be undertaken by LADWP maintenance staff or contracted workers. In performing these maintenance activities, maintenance staff would use equipment ranging from hand tools, mowers, loaders, bobcat dozers, and back hoes.

The VNC (proposed project area) is located within the neighborhood of Granada Hills, approximately 20 miles northeast of downtown Los Angeles. The approximately 1,340-acre complex sits at the foothills of the Santa Susana Mountains in the northern portion of the San Fernando Valley. It is located approximately 0.45 miles northwest of the Interstate 5 and Interstate 405 interchange, and generally bounded by Interstate 5 to the northeast and east, Balboa Avenue to the northwest, Woodley Avenue to the west, and Rinaldi Street and commercial and residential development to the south. Specifically, the project area is within Township 3 North, Range 15 West, Section 30, 31, and 32, and Township 2 North, Range 15 West, Section 5 and 6, San Bernardino Base and Meridian, as shown on the U.S. Geological Survey 7.5-minute San Fernando quadrangle map (Attachment A, Figure 1).

Regulatory Setting

The treatment of cultural resources is governed by federal, state, and local laws and regulations. There are specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. For instance, federal and state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. As a whole, the laws and regulations seek to avoid impacts to significant prehistoric or historic resources, and, when avoidance is not feasible, to mitigate those impacts to less than significant levels. In some cases, mitigation can be achieved through "preservation in place" techniques; but when such techniques are infeasible, mitigation can be accomplished via data recovery.

Federal

Title 36 Code of Federal Regulations, Part 800, and Section 106 of the NHPA

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 functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs the following:

> The 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 USC 470f).

Title 36 of the Code of Federal Regulations (CFR), Part 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 the following: consult with federally recognized Native American tribes to identify resources with important cultural values; determine whether or not they may be adversely affected by a proposed undertaking; and outline 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 historical significance in consultation with 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. The criteria for determining eligibility are essentially the same in content and order as those outlined under the CEQA, but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

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, according to 36 CFR 60.4:

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.

The current evaluation of prehistoric cultural resources was performed with the intent of assessing historical significance under criterion D. The ability of an archaeological site to yield important information to history or prehistory is based upon the site's ability to address specific research themes.

The ACHP provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the area of potential effect (APE) (36 CFR 800.16(d));
- Review existing information on historic properties within the APE, including preliminary data;
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these;
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance;
- Appropriate fieldwork (including phased identification and evaluation); and
- Apply NRHP criteria to determine a resource eligibility for NRHP listing.

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when (36 CFR Part 800.5(1)):

> an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those

> that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, SHPO, and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure, and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

State

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" (California 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" (California PRC, Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following criteria (California PRC, Section 5024.1(c)):

1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. 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.

Resources less than 50 years old are not considered for listing in the CRHR but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR 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 on the NRHP are automatically listed on the CRHR. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The SHPO maintains the CRHR.

CEQA Statues and Guidelines

The following sections of the CEQA Statute and Guidelines are relevant to the analysis of archaeological and historic resources:

1. California PRC Section 21083.2(g): Defines "unique archaeological resource."
2. California PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a): Define 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 a historical resource.
3. California PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures. Preservation-in-place is identified as the preferred manner of mitigating impacts to significant archaeological sites.

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" (California PRC, Section 21084.1; 14 CCR 15064.5(b)). A "historical resource" is any site listed or eligible for listing in the CRHR.

The term "historical resource" also includes any site described in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California PRC, Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." PRC Section 21083.2(g) defines a "unique archaeological resource" as any 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.

All historical resources and unique archaeological resources—as defined by statute—are presumed to be historically or culturally significant for purposes of CEQA (California PRC, Section 21084.1; 14 CCR 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 (California PRC, Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of "historical

resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (California PRC, Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA any significant cultural impact results from a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "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" (14 CCR 15064.5(b)(1); California PRC, Section 5020.1(q)). In turn, the significance of a 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 CRHR; 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 CRHR as determined by a lead agency for purposes of CEQA.

Pursuant to this section, CEQA requires the lead agency to first evaluate whether a project site contains any "historical resources," then assess 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.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements:

> If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:
>
> 1. Planning construction to avoid archaeological sites.
> 2. Deeding archaeological sites into permanent conservation easements.
> 3. Capping or covering archaeological sites with a layer of soil before building on the sites.
> 4. Planning parks, greenspace, or other open space to incorporate archaeological sites.

Paleontological resources are also afforded consideration under CEQA. Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) includes the following question to be answered in the Environmental Checklist (Appendix G, Section V, Part c): Would the project "[d]irectly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" California PRC Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage to or removal of paleontological resources.

California PRC, Section 21083.2(b)(1)-(4).

If preservation-in-place options are not feasible, mitigation may be accomplished through data recovery (California PRC, Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). PRC section 21083.2(d) states the following:

> Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.

Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended California PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

Consultation with Native Americans

AB 52 formalizes the consultation process between lead agencies and tribal representatives, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site and/or area. This may include tribes that are not federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report (EIR).

Tribal Cultural Resources

Section 4 of AB 52 adds Sections 21074 (a) and (b) to the PRC, addressing tribal cultural resources and cultural landscapes. Section 21074 (a) defines tribal cultural resources as one of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
   b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to

tribal cultural resources, the consultation shall include those topics (California PRC, Section 21080.3.2(a)). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3(a)).

Native American Historic Cultural Sites

The Native American Historic Resources Protection Act (California PRC, Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code

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.

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. California 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). 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. In accordance with PRC Section 5097.98, the NAHC shall 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.

Los Angeles County

Historical, cultural, and paleontological resources are discussed in the Conservation and Natural Resources Element of the *Los Angeles County General Plan 2035, Public Review Draft 2012*. The County of Los Angeles (County) recognizes that historical and cultural resources are an important part of the County's identity and

contribute to the local economy. The goals and policies that apply to historical, cultural, and paleontological resources are as follows:

- Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
- Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances the County's historic, cultural, and paleontological resources.
- Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.
- Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

The County's General Plan Environmental Impact Report addresses potential impacts to paleontological resources and details procedures for reducing the impacts to a less-than-significant level (County of Los Angeles 2014):

> A paleontological resources assessment shall be performed to determine the paleontological sensitivity of the proposed project site. Assessments shall include a records search at the Natural History Museum of Los Angeles County (NHM) and/or other scientific institution that maintains records of fossil localities in the region. If the NHM indicates that the proposed project site is highly sensitive, a qualified paleontologist shall be retained to perform a field survey to further characterize or identify significant paleontological resources.

Local

Los Angeles Historic-Cultural Monuments

Local landmarks in the City of Los Angeles are known as Historic-Cultural Monuments (HCMs) and are under the aegis of the Planning Department, Office of Historic Resources. They are defined in the Cultural Heritage Ordinance as follows (Los Angeles Municipal Code, Section 22.171.7, added by Ordinance No. 178,402, effective April 2, 2007):

> Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

This definition has been broken down into the following four HCM designation criteria that closely parallel the existing NRHP and CRHR criteria:

1. Is identified with important events in the main currents of national, State or local history, or exemplifies significant contributions to the broad cultural, political, economic or social history of the nation, state, city, or community; or

2. Is associated with the lives of Historic Personages important to national, state, city, or local history; or
3. Embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder or architect whose genius influenced his or her age; or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the pre-history or history of the nation, state, city or community.

Historic Preservation Overlay Zones

As described by the City of Los Angeles Office of Historic Resources, the Historic Preservation Overlay Zone Ordinance was adopted in 1979 and amended in 2004 to identify and protect neighborhoods with distinct architectural and cultural resources. Historic Preservation Overlay Zones, commonly known as historic districts, provide for review of proposed exterior alterations and additions to historic properties within designated districts.

Regarding Historic Preservation Overlay Zone eligibility, City of Los Angeles Ordinance Number 175891 states (Los Angeles Municipal Code, Section 12.20.3):

> Features designated as contributing shall meet one or more of the following criteria:
>
> 1. adds to the Historic architectural qualities or Historic associations for which a property is significant because it was present during the period of significance, and possesses Historic integrity reflecting its character at that time; or
> 2. owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community or city; or
> 3. retaining the building, structure, Landscaping, or Natural Feature, would contribute to the preservation and protection of an Historic place or area of Historic interest in the City.

Regarding effects on federal and locally significant properties, Los Angeles Municipal Code (Section 91.106.4.5, Permits for Historical and Cultural Buildings), states:

> The department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious damage to a significant historical or cultural asset. If the department determines that such loss or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit

shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

Background Research

Archaeological Records Search

On April 30, 2018, Dudek completed a search of the California Historical Resources Information System at the SCCIC, located on the campus of California State University, Fullerton. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; 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. The confidential records search results are provided in Attachment B.

Previously Conducted Cultural Resource Studies

The SCCIC records indicate that 72 previous cultural resources technical investigations have been conducted within 1.0 mile (1,608 meters) of the project area between 1971 and 2012. Of these, 10 previous studies have been conducted overlapping a portion the project area, 1 previously conducted study intersects the project area, and 3 studies are adjacent to the project area. All 72 technical investigations are summarized in Table 1.

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00014	Kelly, Roger E.	1973	Assessment of the Archaeological Resources and the Impact of Development of Highway 118 From Desoto Avenue to the San Diego Freeway in the San Fernando Valley	Outside
LA-00033	Anonymous	1974	Impact Assessment of Archaeological Resources by the Construction of Palmdale Maintenance Stations	Outside
LA-00051	Kelly, Roger E. and Gerald R. Gates	1974	Cultural Resources of Los Angeles Reservoir, City of Los Angeles	Overlap
LA-00097	Gates, Gerald R.	1975	Report on the Salvage Excavation of CA-Lan-493 and CA-LAn-645 Located in the Van Norman Reservoir Complex, City of Los Angeles	Overlap
LA-00368	Raab, Mark L.	1988	Report of Archaeological Reconnaissance Survey Of: the Proposed Metropolitan Water District of Southern California Joseph Jensen Filtration Plant Expansion	Adjacent
LA-00486	Unavailable	1977	Archaeological Survey Report on Eighty (80) Acres Located in the Granada Hills Area of the County of Los Angeles	Outside
LA-00487	Fontaine, Keith J. Lee	1977	Archaeological Field Test Report on Archaeological Site CA-LAN-786 Located in the Granada Hills Area of the County of Los Angeles	Outside

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00818	Gates, Gerald R.	1973	Archaeological Resources of the Van Norman Reservoir Area a Preliminary Report	Overlap
LA-01001	Schroth, Adella	1981	Archaeological Assessment of the Southeast Area Economic Development Project, City of Glendora, Los Angeles County, California	Outside
LA-01018	Singer, Clay A.	1980	Cultural Resource Survey and Impact Assessment for Tentative Tract No.37743, Near the Community of San Fernando, Los Angeles County, California	Outside
LA-01044	McIntyre, Michael J.	1977	Assessment of the Impact Upon Cultural Resources by the Proposed Development of O'melveny (bee Canyon) Park, Granada Hills	Outside
LA-01113	McIntyre, Michael J.	1976	Assessment of the Archaeological Impact by the Proposed Development of Tract No. 3d3287	Outside
LA-01151	Rechtman, Robert B. and Richard D. Aycock	1982	An Archaeological Resource Survey and Impact Report Assessment of a 9 Acre Parcel, Eastern Holy Cross Property, Los Angeles County, California	Outside
LA-01154	Colby, Susan M.	1982	An Archaeological and Resource Survey and Impact Assessment of Site D in the City of Los Angeles, California	Outside
LA-01432	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of Northern Parcels of Holy Cross Hospital Property, Mission Hills, Los Angeles County, California	Outside
LA-01464	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of a 10 + Acre Parcel at 10105 Mission Hills Road, Los Angeles County, California	Outside
LA-01510	White, Robert S.	1986	Archaeological Survey Report: the Sunset Farms Property, City of Los Angeles	Outside
LA-01730	Clewlow, William C. Jr.	1978	Archaeological Report Status of LAN-816 in Sunshine Canyon	Outside
LA-01847	Salls, Roy A.	1989	Report of Archaeological Reconnaissance Survey Of:44622, Lots 8, 11, and 12 15900 Valley View Court, Sylmar, California tract	Outside
LA-01981	Garfinkel, Alan P.	1972	The Andres Pico Adobe: a Research Proposal	Outside
LA-02006	Briuer, Frederick L.	1976	Assessment of the Archaeological Impact of the Proposed Zone Change of the 5 Acre Lot on Olden Street in Sylmar City of Los Angeles	Outside
LA-02083	Eberhart, Hal	1975	Draft Environmental Impact Report	Outside
LA-02095	Salls, Roy A.	1990	Report of Archaeological Reconnaissance Survey of Parcel C Parcel. Map No. L.a. 4587 Ga Project No. 8926 13258 Ralston Avenue, Sylmar, California 9134	Outside
LA-02231	Chartkoff, Joseph and Kerry Chartkoff	1966	University of California Los Angeles - Archaeological Survey Field Project Number Ucas-081-b Highway Construction Survey Vii-la-5-p.m. 43.4-45.6	Outside
LA-02371	Walker, Edwin F.	1936	A Ceremonial Site at Porter Ranch, San Fernando	Outside
LA-02402	Foster, John M. and Robert J. Wlodarski	1983	A Burial From the Van Norman Reservoir.	Overlap

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-02488	Knight, Albert	1991	The Andres Pico Adobe	Outside
LA-02517	Wlodarski, Robert J.	1991	A Phase 1 Archaeological Study for Eight Areas Proposed for the New Los Angeles Police Training Academy, and Driver Training Facility, City of Los Angeles County, California	Overlap
LA-02526	Gamble, Lynn H.	1985	Letter Report: the Montevideo Country Club Project Planned for Topanga Canyon	Outside
LA-02540	Kaptain, Neal	1991	Cultural Resource Investigation Survey of Service Connection La-35 Joseph Jenson Filtration Plant Granada Hills, California	Outside
LA-02683	Engineering Science	1992	Draft Environmental Impact Report - Police Bond Program, Police Driver Training Facility	Overlap
LA-02892	Stone, David and Robert Sheets	1993	Phase I Archaeological Survey Report Pacific Pipeline Project Santa Barbara Coastal Reroutes Ethnohistoric Village Placement Locations	Outside
LA-02950	Anonymous	1992	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Outside
LA-03009	Knight, Albert	1994	Damages to and Losses of Cultural Resources in Los Angeles County, California During the Riots, Fire Storms and Earthquakes of 1992-1994	Outside
LA-03289	Davis, Gene	1990	Mobil M-70 Pipeline Replacement Project Cultural Resource Survey Report for Mobil Corporation	Outside
LA-03587	King, Chester	1994	Prehistoric Native American Cultural Sites in the Santa Monica Mountains	Overlap
LA-03670	Getchell, Barbie Stevenson and John E. Atwood	1997	Cultural Resources Monitoring for the Stranwood Avenue to Sepulveda Boulevard Drain Project Located in the Community of Mission Hills, Los Angeles County, California	Outside
LA-04072	King, Chester	1995	Letter of August 20, 1995 to Colonel Rogers	Outside
LA-04088	Walker, Edwin Francis	1952	A Metate Site at San Fernando - (excerpt from) Five Prehistoric Archaeological Sites in Los Angeles County, California	Outside
LA-04104	Macko, Michael E.	1993	Cultural Resource Evaluation of the LADWP Power Plant 1–olive Line 1 Transmission Line Maintenance Project Los Angeles County, California	Outside
LA-04107	York, Andrew L. and Gene Davis	1991	B1r Route Variation Supplement & Templin Hwy Supplement to Mobile M-70 Pipeline Replacement Project Cultural Resources Survey Report	Adjacent
LA-04403	Duke, Curt	1999	Cultural Resource Assessment for the AT&T Wireless Services Facility Number R109.1, Located at the Interstate 5 and Interstate 405 Interchange, City of San Fernando, County of Los Angeles, California	Outside
LA-04499	Slawson, Dana N.	1998	Historical Resource Investigation for Health Structures Tract 52539	Outside

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-04582	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 823-03, County of Los Angeles, California	Outside
LA-04766	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 219-01, County of Los Angeles, California	Outside
LA-05174	Iverson, Gary	1999	Negative Archaeological Survey Report:20180k	Outside
LA-05543	Duke, Curt	2001	Cultural Resource Assessment: Cingular Wireless Facility No. Vy 101-01 Los Angeles County, California	Outside
LA-06997	Foster, John M.	2002	Archaeological Investigation for Northeast Valley Animal Shelter (stranwood) Task Id No. Nev002 City of Los Angeles, California	Outside
LA-07008	Unknown	2002	Los Angeles Unified School District Site Expansion of Kennedy High School Facilities Located at 11254 Gothic Avenue, Granada Hills in the City of Los Angeles	Outside
LA-07082	Milburn, Douglas H.	2003	Archaeological Investigation at CA-LAN-1209/h, Cooper Creek Site, Northern San Gabriel Mountains, Los Angeles County, California	Outside
LA-07165	Thal, Erika	2005	CA-6392a/chips Telecommuunications12000 Blucher Avenue, Granada Hills, Ca Los Angeles County	Outside
LA-08255	Arrington, Cindy and Nancy Sikes	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	Outside
LA-08839	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate Sv00871a (global Signal Monopine), 12690 North Balboa Boulevard, Granada Hills, Los Angeles County, California	Outside
LA-09068	Bonner, Wayne H.	2003	Cultural Survey Results for Cingular Wireless Facility Candidate Vy-351-01 (Woodley/Balboa), 13000 North Balboa Blvd., Granada Hills, Los Angeles County, California.	Outside
LA-09586	Bonner, Wayne H.	2008	Cultural Resources Records Search and site Visit Results for T-Mobile USA Candidate SV00875A(XR) (Knolwood Country Club), Granada Hills, Los Angeles County, California	Outside
LA-10003	Foster, John M.	2004	An Extended Phase I Archaeological Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10004	Foster, John M.	2005	Archaeological Monitoring Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10010	Maki, Mary K.	2004	Archaeological Record Search Results for the Cascades Business Park Project, Sylmar, Los Angeles County, California	Outside
LA-10179	Smith, Phil and Gary Iverson	2000	Highway Project Description - 1Y0201	Adjacent

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-10642	Tang, Bai "Tom"	2010	Preliminary Historical/Archaeological Resources Study, Antelope Valley line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California	Outside
LA-10961	Abdo-Hintzman, Kholod, Hamilton, M. Colleen, and Warren, Keith	2010	Archaeological Phase III Data Recovery at Mission San Fernando for the Brand Park Community Center. Mission Hills, San Fernando Valley, California	Outside
LA-11086	Wlodarski, Robert J.	2009	Aviation/Artesia - LAR090 1765 Artesia Boulevard, Manhattan Beach, CA 90266	Outside
LA-11186	Wallace, James R. and Sara Dietler	2011	Archaeological Monitoring Report and Assessment for the Van Norman Chlorination Stations Nos. 1 & 2, Los Angeles, California	Overlap
LA-11606	Maxon, Patrick	2011	Phase I Cultural Resources Assessment, Sylmar Ground Return Replacement Project, Los Angeles County, California	Intersecting
LA-11663	Watson, Tracy	2012	McDonald's Restaurant no.834 Wireless Antenna Indoor Installation 11015 Sepulveda Boulevard Mission Hills, Los Angeles County, California	Outside
LA-11664	Loftus, Shannon	2011	Cultural Resource Records Search and Site Survey, AT&T Site LA0609 (44468) I-5 FWY/I-405 Fwy Interchange 12000 North Blucher Avenue, Granada Hills, Los Angeles County, California 91344	Outside
LA-11818	Dietler, Sara, Kry, Linda, and Gibson, Heather	2012	Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project City of Los Angeles, California	Overlapping
LA-12526	Ehringer, Candace, Ramirez, Katherine, and Vader, Michael	2013	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	Outside
LA-12635	Millington, Chris, Dietler, Sara, Shawn, Brandi, and Gibson, Heather	2014	Cultural Resources Monitoring report for the San Fernando Substation Grounding Rods and Lateral Installation Project (I0329985) Mission Hills, City of Los Angeles, Los Angeles County, California	Outside
LA-12766	Strudwick, Ivan	2013	Results of Cultural Resource Monitoring at the Andres Pico Adobe, 10940 Sepulveda Boulevard, City and County of Los Angeles, California	Outside
LA-12946	Holloway, Charles and Hal Messinger	2009	Mitigated Negative Declaration, Los Angeles Aqueduct Filtration Plant Disinfection Contact Tank Project	Overlap
LA-13030	Bonner, Diane F. and Carrie D. Wills	2014	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CLV4082 (Filbert Tower), 16397 Filbert Street, Sylmar, Los Angeles County, California, CASPR No. 3551699410	Outside

Previously Recorded Cultural Resources

The SCCIC records indicate that 35 resources have been recorded within 1.0 mile (1,608 meters) of the project area, including 13 historic resources, 12 prehistoric resources, 8 multicomponent resources, and 2 sites of unknown age. Of the 35 resources, 16 resources intersect the project site, including 14 prehistoric or multicomponent resources (1 of which is an archaeological district that encompasses 9 of the resources), and 2 historic resources. Aside from the sites intersecting the project site, most of the remaining sites are clustered almost 1 mile to the south and southwest of the project site. All 35 resources are summarized below in Table 2.

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000034	CA-LAN-000034	Prehistoric	Not evaluated	San Fernando Metate Site	1951 (Walker, Edwin, Southwest Museum); 1998 (Sutton, MQ, California State University, Bakersfield)	Outside
P-19-000169	CA-LAN-000169H	Multicomponent	Not evaluated	San Fernando Mission Archaeological Site	1950 (Pilling); 2013 (Aaron Elzinga and Chris Millington, SWCA); 2014 (Andrea Bean, John-Mark Cardwell, Chris Purtel, SWCA)	Outside
P-19-000255	CA-LAN-000255	Prehistoric	Not evaluated	Possible cemetery and habitation site	1968 (J. Beaton)	Outside
P-19-000408	CA-LAN-000408	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000409	CA-LAN-000409	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000411	CA-LAN-000411	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside
P-19-000412	CA-LAN-000412	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000475	CA-LAN-000475/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within
P-19-000490	CA-LAN-000490	Prehistoric	2S (Determined Eligible; Listed in the CR)	Lithic scatter; 1991 update stated that most surficial artifacts had been removed. Site has not been updated or relocated since 1991.	1972 (G. Gates); 1991 (R. Wlodarski & J. Budd, Cal State University Northridge)	Within
P-19-000491	CA-LAN-000491/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1991.	1972 (G. Gates)	Within
P-19-000492	CA-LAN-000492	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972	1972 (GATES)	Within
P-19-000493	CA-LAN-000493/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Historic artifact scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000629	CA-LAN-000629	Prehistoric	Not evaluated	Burial; Originally recorded and excavated completely, additional testing showed it was isolated and no other artifacts were recovered. Attempt to relocate in 2011 were unsuccessful as the site was and is still mapped as being within the Los Angeles Reservoir.	1972 (G. Gates); 1974 (Kelly et al.); 2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-000642	CA-LAN-000642	Prehistoric	Not evaluated	Groundstone and lithic scatter; Original site record states it was basically destroyed at time of recordation. Site has not been updated or relocated since 1974	1974 (Kelly, Gates, Bente)	Within
P-19-000643	CA-LAN-000643	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Most recent recordation stated it appeared as a surficial deposit. Site has not been updated or relocated since 1991.	1974 (Kelly et al.); 1991 (R. Wlodarski, J Budd)	Within
P-19-000644	CA-LAN-000644	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original site record states it was "pretty much already destroyed" at time of recordation. Site has not been updated or relocated since 1974.	1974 (Kelly et al.)	Within
P-19-000645	CA-LAN-000645	Prehistoric	Not evaluated	Groundstone and lithic scatter; Original site record states it was destroyed by construction of the Los Angeles Dam. Site is mapped as being within the Los Angeles Reservoir.	1974 (Kelly et al.)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000646	CA-LAN-000646/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Site has not been updated or relocated since 1974	1974 (Kelly et al.)	Within
P-19-000960	CA-LAN-000960H	Historic	Not evaluated	San Fernando Mission Dam	1978 (Bob Edberg, NARC); 1978 (Bob Edberg, NARC)	Outside
P-19-002150	CA-LAN-002150H	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Aqueduct	1993 (R. Sheets, A. Cole, Science Applications International Corp)	Outside
P-19-002681	CA-LAN-002681/H	Multicomponent	Not evaluated	Historic and prehistoric artifacts scatter	1998 (Albert Knight, Pacific Pipeline Systems, Inc.); 1998 (Albert Knight, Pacific Pipeline Systems, Inc.); 2001 (Albert Knight, SAIC); 2001 (Albert Knight)	Outside
P-19-002760	CA-LAN-002760H	Historic	3S (Appears eligible for NR through survey evaluation)	Reservoir and Weir Box	1998 (D. Slawson, Greenwood & Associates)	Outside
P-19-003182	CA-LAN-003182H	Historic	3S (Appears eligible for NR through survey evaluation)	Mission period stone foundation and associated historic period refuse deposit	2004 (John M. Foster, Greenwood & Associates)	Outside
P-19-004226	CA-LAN-004226	Prehistoric	Not evaluated	Groundstone and lithic scatter; Identified during construction for Van Norman Chlorination Tank No. 1. All artifacts out of situ and in disturbed context.	2009 (Frank Humphries, AECOM)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-004227	CA-LAN-004227/H	Multicomponent	Not evaluated	Groundstone and lithic scatter; historic artifact scatter; Identified during construction for Van Norman Chlorination Tank No. 2. All artifacts out of situ and in disturbed context. Likely remnants of previously destroyed sites. Chlorination Tanks now sit where site was recorded.	2009 (Frank Humprhies, AECOM)	Within
P-19-004228	CA-LAN-004228H	Historic	Not evaluated	Historic refuse scatter; Exposed artifacts were collected, extent of site unknown.	2009 (Frank Humphries, AECOM)	Within
P-19-167231	-	Historic	2S (Determined Eligible; Listed in the CR)	Mission San Fernando Rey de Espana Convento Building	1988 (D. Cameron, Archival Center, San Fernando Mission)	Outside
P-19-173040	-	Historic	3S (Appears eligible for NR through survey evaluation)	Mission Wells and Settling Basin	1967 (LA Cultural Heritage Commission); 2012 (Albert Knight)	Outside
P-19-175538	-	Multicomponent	2S (Determined Eligible; Listed in the CR)	Van Norman Reservoir Archaeological District-includes P-19-000475,-000490, -000491, -000492, -000493, -000642, -000643, -000645, and -000646	1974 (G. Gates & Dr. A Gilman, Northridge Archaeological Center)	Within
P-19-186558	-	Historic	5S1 (Individual Property that is listed or designated locally)	Brand Park/Memory Garden	1980 (J. Arbuckle)	Outside

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-186560	-	Historic	5S1 (Individual Property that is listed or designated locally)	Terminus of Owens Rivers Aqueduct	1980 (J. Arbuckle)	Outside
P-19-186721	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	1640-1646 North Spring Street	2002 (D. Slawson, Greenwood & Associates)	Outside
P-19-188007	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Old San Fernando Rd	2006 (J. McKenna, McKenna et al); 2011 (C. Ehringer, ESA)	Outside
P-19-190043	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Bull Creek Extension Channel; Resource has already been determine ineligible and therefore no significant impact will result.	2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-190318	-	Historic	Not evaluated	Rail Spur crossing San Fernando Road	2012 (C. Ehringer, ESA)	Outside

Notes: NRHP = National Register of Historic Places; CRHR= California Register of Historical Resources

Site Revisits

In total, 15 archaeological sites and 1 archaeological district were revisited during the intensive pedestrian survey. Each resource is discussed below.

Van Norman Archaeological District (P-19-175538)

The Van Norman Archaeological District was nominated to the NRHP in 1974 and approved in 1975. The district includes the following sites: P-19-000475,-000490, -000491, -000492, -000493, -000643, and -000646. These sites were all identified and recorded by Gerald Gates between 1972 and 1975. Several of the sites, including P-19-000475, -000491, -000492, -000493, and -000643, were located within the boundaries of Lower Van Norman Lake, the original reservoir that existed in the area prior to the development of the extant Lower Van Norman Reservoir. Lower Van Norman Lake was drained in the 1970s, exposing the sites and allowing for their identification

and excavation. All of these sites are within the project site and will be briefly discussed below. Sites P-19-000642 and P-19-000645 were originally nominated for inclusion but were deemed not eligible.

P-19-000475 (CA-LAN-475/H)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site was excavated by an archaeological field class from California State University, Northridge, for five semesters between 1972 and 1975, though it was indicated that less than 1% of the site was sampled. The site is located within the boundaries of the original Lower Van Norman Lake. The original site record from 1972 states that the site was in danger of being destroyed by development in the area. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000490 (CA-LAN-490)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1972 and was updated once in 1991 by Robert Wlodarski and J. Budd. During the original recordation, more than 70 surface artifacts were collected and the 1991 record indicates that very few artifacts remained at that time. The original record states that the subject may have been victim to looting, which likely added to its destruction. The 1991 record states that the site may have contained subsurface components, but it was not tested. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000491 (CA-LAN-491)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Reservoir. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000492 (CA-LAN-492)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000493 (CA-LAN-493)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted

at this site in 1974 and 1975, due to the planned destruction of the site. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000643 (CA-LAN-643)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates and updated once in 1991 by Robert Wlodarski and J. Budd. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site was not at risk for destruction. The updated site record indicates that in 1991 much of the site was covered by riprap. This record also states that the site appeared surficial, although it was not tested. The site has not been updated since 1991 and was not observed during pedestrian survey conducted for this project. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000646 (CA-LAN-646)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates and Associates. At the time of recordation, there were no plans for construction within or near the site that would have impacted it. The site is located in the southwestern-most corner of the project area, which has seen a relatively small number of disturbances over the years; however, no components of the site were observed during the pedestrian survey. The site may have lost its surficial component due to erosion, construction and maintenance, or looting; however, it is unknown if a subsurface component exists.

P-19-000629 (CA-LAN-629)

This site is an isolated, prehistoric human burial associated with a large amount of artifacts originally recorded in 1972 by Gerald Gates and updated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The burial was completely excavated in block in 1972, and additional testing was conducted at that time. Additional testing indicated that additional materials were not present. AECOM completed a survey for the Van Norman Complex Water Quality Improvement Project in 2011 and attempted to relocate the site; however, no portions of the site were present. The entirety of the site is completely under water within the Los Angeles Reservoir. The site condition has not changed since 2011, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-000642 (CA-LAN-642)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. The original site record from 1972 states that the site had already been essentially destroyed by grading and planned construction would likely destroy any remnants. No portions of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000644 (CA-LAN-644)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates. At the time of recordation, the site had been essentially destroyed and planned construction would likely destroy any remnants. The site is located in the same location as several VNC facilities between the Yarnell Debris Basin and the Upper San Fernando Drain Line. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that the site is either completely destroyed or now completely lacks a surficial component.

P-19-000645 (CA-LAN-645)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of Lower Van Norman Lake, the original reservoir that existed in the area, prior to the development of the extant VNC. Lower Van Norman Lake was drained in the 1970s, exposing the site and allowing for its identification and excavation. At the time of recordation, the site was determined to have been destroyed or to be in danger of being destroyed by the Los Angeles Dam Project. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted at this site in 1974 and 1975, due to the planned destruction of the site. The site is mapped within the Los Angeles Reservoir, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-004226 (CA-LAN-4226)

This site is a sparse prehistoric lithic and groundstone scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 1 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the artifacts may have been redeposited as the result of historic grading and fill episodes. The site is located in the area directly to the northwest of the Los Angeles Reservoir, in the same location as several VNC Facilities.

P-19-004227 (CA-LAN-4227)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the artifacts may have been constituents of previously recorded sites, which were spread throughout the area during grading and filling episodes. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-004228 (CA-LAN-4228)

This site is a historic refuse scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the site may have been a result of historic construction and maintenance of the reservoir or a result of the habitation of historic homes that were once located at the site. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-190043 (CA-LAN-190043)

This resource is the Bull Creek Extension Channel, which runs through the VNC and was recorded and evaluated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The evaluation determined that the Bull Creek Extension Channel was not eligible for listing on the CRHR because it did not retain integrity due to changes that have been made to it over time.

Paleontological Records Search

Dudek sent a paleontological records search request to the LACM on May 01, 2018, and received the results on May 15, 2018. According to the LACM (Attachment C) and surficial geological mapping by Dibblee (2010) at a scale of 1:24,000, the VNC is underlain by the following geological units from youngest to oldest: Holocene (<12,000 years ago) younger Quaternary alluvium (map unit Qa) underlain by Pleistocene (~2.8 million to 12,000 years ago) older Quaternary alluvium (map unit Qoa), Pliocene (~5.3 to 2.8 million years ago) to Pleistocene Saugus Formation (map units Qts and Tsr), Pliocene Towsley Formation (map unit Ttos), and the late Miocene (~11.6 to 5.3 million years ago) Monterey Formation (map unit Tm).

The LACM reported two previously recorded vertebrate fossil localities within the VNC and several localities outside but near the VNC. The two vertebrate fossil localities are from older Quaternary deposits or the Saugus Formation in the northwestern and northeastern proposed project area and yielded a fossil bison (*Bison*) at 75 feet below the ground surface and a fossil mammoth (*Mammuthus*) and bison (*Bison*) from an unspecified depth, respectively (Attachment C). Nearby, but east of the northernmost proposed project area, McLeod (2018, included as Attachment C) reported on fossil mastodon (*Mammut*) and horse (*Equus*) from older Quaternary deposits. The LACM did not report any fossil localities from the Towsley Formation or Monterey Formation within the proposed project area; however, there are several in the vicinity of the VNC. The nearest definitive Saugus Formation locality, which is situated just east of the southern portion of the Debris Basin, yielded a fossil specimen of horse (*Equus*) (Attachment C). The LACM reported on a fossil locality from the Towsley Formation, approximately 1 mile north-northeast of the proposed project area that produced a specimen of baleen whale. While only one indeterminate mammal was reported by the LACM from the Monterey Formation near the proposed project area, McLeod (2018, included as Attachment C) mentioned numerous LACM localities from the Monterey Formation south of the proposed project area on the northern flank of the Santa Monica Mountains. No further details regarding these localities was given.

Map and Historic Aerial Photography Research

Historic maps and aerial photographs were consulted to understand development of the project area and surrounding properties. Topographic maps are available from 1900 to the present and aerial images are available from 1947 to the present (NETR 2018).

Topographic maps show that the project area began to be used as a reservoir by at least 1924. Originally, the reservoir consisted of one unlined, irregularly shaped lake, which was dammed on the southeastern corner, in roughly the same location as the existing Lower San Fernando Dam. By 1927, topographic maps indicate that the reservoir was expanded and a second man-made lake was built to the north of the original reservoir. These reservoirs were named Upper and Lower San Fernando Reservoirs. In 1967 the names of the two reservoirs were changed to Upper and Lower Van Norman Reservoirs. Topographic maps indicate that there were no substantial

changes to the size and shape of the reservoirs until after the 1971 Sylmar Earthquake, when the existing Los Angeles Reservoir was constructed. The neighborhoods surrounding the reservoirs to the west, south, and east, however, had undergone extensive development between 1927 and 1975, transforming from a sparsely developed, mainly agricultural area, to moderately dense residential area.

The first historic aerials from the project area, dating to 1947, shows both the Upper and Lower Van Norman Reservoirs, though at this time they were both irregularly shaped lakes. Similar to the findings based on the topographical maps, the historic aerials did not indicate any massive changes to the project area occurred until after the 1971 Sylmar Earthquake, when the existing Los Angeles Reservoir was constructed to replace the Upper and Lower Van Norman Reservoirs. Between 1980 and 2014, several buildings associated with the reservoirs were built within the VNC.

Native American Correspondence

Dudek contacted the NAHC on May 3, 2018, and requested a review of the Sacred Lands File. The NAHC replied via email on May 7, 2018, stating that the Sacred Lands File search was completed with negative results. Because the Sacred Lands File 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 project. The NAHC provided a list of nine Native American groups and individuals who may have knowledge of cultural resources in the project area. No tribal outreach was conducted. Documents related to the NAHC SLF search are included in Attachment D. Survey Methods

A Dudek specialist who qualifies for paleontology and archaeology under the Secretary of Interior Standards conducted an intensive pedestrian survey of the project area on May 2 and May 3, 2018, using standard paleontological and archaeological procedures and techniques. All work areas were surveyed and included the Lower San Fernando Detention Basin, Upper Northeast Drainage, LAR UV Plant Drainage and V-Ditch, LAR North Dike Storm Water Basin and East Channel, Yarnell Debris Basin, Upper San Fernando Drain Line Feature 1 and Feature 2, San Fernando Gate Drainage Feature, Upper Debris Basin, Middle Debris Basin, Bee Drainage Channel, Segment of Bull Creek Extension, and San Fernando Creek (Attachment A, Figure 2). All field practices met the Secretary of Interior's standards and guidelines for a cultural resources and paleontological inventory. Pedestrian transects were walked on 20-meter intervals throughout the project area. Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials and to record locational information.

Where cultural materials were encountered, all data necessary to complete the appropriate State of California Department of Parks and Recreation 523 series forms were collected. Following California Office of Historic Preservation guidelines, any cultural material more than 45 years old was recorded as an archaeological site, built environment resource, or isolate, as appropriate. All fieldwork was documented using field notes and iPad technology with close-scale field maps and aerial photographs. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with 8 megapixel resolution and georeferenced PDF maps of the project area. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California, office.

Survey Results

No significant archaeological or paleontological resources were documented during the survey; however, insignificant resources were documented in the Upper Northeast Drainage (chunks of bricks, concrete, and asphalt mixed in the riprap) and Middle Debris Basin (bricks and fragmentary glass insulator deposited on the creek bottom) (Attachment A, Figures 3 and 4). Much of the project area is covered with vegetation, and portions have been covered with gravel. Ground visibility was generally poor (0%–20%) and many of the channels were lined with concrete and/or riprap, completely overgrown with vegetation, or contained water, further diminishing the surveyable area. Soils in the area are light yellowish-brown sands with gravel. The project area is fenced in with a chain-link fence and is located within a rural, residential area. During the survey, no remnants of the 15 sites that were recorded within the project area were observed. These results likely speak to the disturbance that the site has experienced over the last 50 years. There is a low probability of uncovering significant archaeological deposits because of the landforms on which these resources existed has been completely disturbed. However, there is still the possibility of identifying sensitive artifacts, whether in situ or not. Overviews of the proposed project area are shown in Figures 5 and 6 in Attachment A.

Impacts Analysis

Archaeological Sensitivity

The routine operation and maintenance activities will consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport archaeological resources from their original locations. None of the previously identified significant or potentially significant archaeological sites recorded in the project area could be relocated due to extensive disturbances in the past that have destroyed the sites. Despite disturbances, there remains a possibility of discovering sensitive remains or artifacts during earth-moving activities associated with the project, and thus, archaeological sensitivity is considered low to moderate. Therefore, the following mitigation measures should be adopted to ensure that cultural resources are not impacted during the proposed project.

Paleontological Sensitivity

The routine operation and maintenance activities will consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport paleontological resources from their original locations. No significant paleontological or unique geological resources were identified within the project area during the pedestrian survey. The paleontological sensitivity within the project area is considered low, and no unique geological features are anticipated to be impacted by the implementation of the proposed project. The following mitigation measure should be adopted to prevent impacts to potentially significant resources.

Effects to historic properties

No previously recorded or new cultural resources were identified within the project APE. Previously recorded cultural resources (eligible/listed in the NRHP/CRHR or not) were not found. Extensive landform modification has completely destroyed previously recorded resources in the APE.

This study was completed to support the proposed routine operation and maintenance activities. Based on these activities, and the lack of identified historic properties, no effects to historic properties were identified, and no effects are likely to occur.

Recommendations

Unanticipated Discovery of Archaeological Resources

CUL-1: A qualified archaeologist should attend the maintenance activity kick-off meeting to coordinate with Los Angeles Department of Water and Power (LADWP) and the construction foreman to allow for brief inspection of initial ground disturbance within 50 feet of previously recorded archaeological site boundaries. The goal of this meeting will be to determine if more intensive archaeological monitoring is required.

Unanticipated Discovery of Paleontological Resources

CUL-2: In the event that paleontological resources (e.g., fossils) are unearthed during project earthmoving, the area of discovery shall be roped off with a 50-foot radius buffer. A qualified paleontologist shall be retained to assess the find and provide appropriate mitigation. Once documentation and collection of the find is completed, the qualified paleontologist will remove the rope and allow grading to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (2010).

Please do not hesitate to contact me if you have any questions about this report. I may be reached via email at mwilliams@dudek.com or via phone at 225.892.7622.

Sincerely,

Michael Williams, PhD
Paleontologist

Erica Nicolay, MA
Archaeologist

CC: Micah Hale, PhD, Dudek

Att.: A, Figures
B, Confidential South Central Coastal Information Center Results
C, Paleontological Records Search Results
D, Native American Heritage Commission Results

References Cited

County of Los Angeles. 2014. "Cultural Resources Study." Appendix I in *County of Los Angeles General Plan Environmental Impact Report*. Prepared for PlaceWorks by Sapphos Environmental Inc. June 12, 2014. Accessed August 2018. http://planning.lacounty.gov/assets/upl/project/gp_2035_deir-appendixI.pdf.

Dibblee, T.W. 2010. "Geologic Map of the San Fernando and North 1/2 Van Nuys Quadrangles, Los Angeles County, California" [map]. Edited by H.E. Ehrenspeck (1991) and J.A. Minch (2010). Dibblee Geology Center Map DF-33. Scale 1:24,000. First printing, 1991; second printing, 2010.

NETR (National Environmental Title Research, LLC). 2018. Historic Aerials and Topographic Maps. Accessed June 2018. http://www.historicaerials.com/.

Society of Vertebrate Paleontology. 2010. "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources." Society of Vertebrate Paleontology, Impact Mitigation Guidelines Revision Committee. Accessed August 2018. http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.

Attachment A

Figures

FIGURE 1
Project Location
LADWP Van Norman Complex

FIGURE 2
Project Site
LADWP Van Norman Complex

Figure 3. Close-up of asphalt and bricks lining east bank of drainage, Upper Northeast Drainage.

Figure 4. Fragmentary glass insulator deposited on bottom of creek channel, Middle Debris Basin.

Figure 5. Developed concrete and asphalt ditch in middle Segment Bull Creek Extension.

Figure 6. Overview of the Project Area, northeast terminus of drainage, LAR UV Plant Drainage

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Attachment B

Confidential South Central Coastal Information Center Results

Attachment C

Paleontological Records Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

15 May 2018

Dudek
605 Third Street
Encinitas, CA 92024

Attn: Michael Williams, Ph.D., Paleontologist

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Van Norman Maintenance Project, Dudek Project # 10649.33, in Granada Hills, Los Angeles County, project area

Dear Mike:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Van Norman Maintenance Project, Dudek Project # 10649.33, in Granada Hills, Los Angeles County, project area as outlined on the portion of the San Fernando USGS topographic quadrangle map that you sent to me via e- mail on 1 May 2018. We have two vertebrate fossil localities that lie directly within the proposed project area boundaries, and we have other localities nearby from the same sedimentary deposits that occur in the proposed project area.

The lower lying terrain that occupies most of the proposed project area around the Van Norman Reservoir has surface deposits of younger Quaternary Alluvium, derived as alluvial fan deposits from the mountains to the west and north. These younger Quaternary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but they are underlain at variably depth by older sedimentary Quaternary deposits that may well contain significant fossil vertebrate remains. Most of the Elevated terrain around the proposed project area has exposures of the Plio-Pleistocene Saugus Formation. Elevated terrain around the very southern end of the proposed project area has exposures of older Quaternary Alluvium, the marine Pliocene Towsley Formation, and the marine late Miocene Monterey Formation.

We have two vertebrate fossil localities from older Quaternary deposits or from the Saugus Formation that occur within the proposed project area: LACM 3397, on the northwestern side of the current Van Norman Reservoir, that produced fossil bison, *Bison*, at a seventy-five foot depth; and LACM 7152, in the northeastern portion of the southern Debris Basin, that produced fossil mammoth, *Mammuthus*, and bison, *Bison*, in terrace deposits. Directly east of the northern-most portion of the proposed project area, just east of the Golden State Freeway (I-5) and south of the Foothill Freeway (I-210), but still in similar older Quaternary deposits, our older Quaternary locality LACM 5745 contained fossil mastodon, *Mammut*, and horse, *Equus*, in fill dirt. Our closest vertebrate fossil locality definitely from the Saugus Formation is LACM 1733, situated just outside the southeastern boundary of the proposed project area east of the southern portion of the Debris Basin, that produced fossil horse, *Equus*, at unknown depth.

Our closest vertebrate fossil locality from the Towsley Formation is LACM 7421, about one mile north-northwest of the northern-most part of the proposed project area adjacent to the Golden State Freeway (I-5), that produced fossil specimens of the extinct baleen whale *Nannocetus*. Our closest vertebrate locality from the Monterey Formation is LACM 3690, east of the southern-most part of the proposed project area in the hills on the southern side of the Tujunga Valley east of the Hansen Dam Flood Control Basin, that produced a fossil specimen of undetermined mammal, Mammalia. We have a great number of vertebrate fossil localities from the Monterey Formation directly south of the proposed project area on the northern side of the Santa Monica Mountains.

Grading or very shallow excavations in the uppermost few feet of younger Quaternary Alluvium found at the surface in the lower lying portions of the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations in those deposits that extend down into older sedimentary deposits, however, as well as any excavations in the exposures of the Saugus Formation, the Towsley Formation, or the Monterey Formation, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected and processed to determine the small fossil potential in these rock units. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Attachment D

Native American Heritage Commission Results

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

May 7, 2018

Erica Nicolay
Dudek

Sent by E-mail: enicolay@dudek.com

RE: Proposed Van Norman Reservoir (Project 10649.33) Project, near the City of San Fernando; San Fernando and Oat Mountain USGS Quadrangles, Los Angeles County, California

Dear Ms. Nicolay:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
Los Angeles County
5/7/2018

Fernandeno Tataviam Band of Mission Indians
Beverly Salazar Folkes, Elders Council
1931 Shady Brooks Drive
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Tataviam

Fernandeno Tataviam Band of Mission Indians
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jairo.avila@tataviam-nsn.us
Tataviam

Fernandeno Tataviam Band of Mission Indians
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Tataviam

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Gabrieleno

Gabrieleno/Tongva San Gabriel Band of Mission Indians
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Gabrielino

Gabrielino Tongva Indians of California Tribal Council
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Gabrielino

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Phone: (503) 539 - 0933
Fax: (503) 574-3308
ddyocum@comcast.net
Kitanemuk
Serrano
Tataviam

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Van Norman Reservoir Project, Los Angeles County.

PROJ-2018-002585 | 05/07/2018 11:46 AM | 1 of 1

APPENDIX D

Noise Modeling Results

Noise Appendix

Field Noise Measurement Data Sheets

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN 1S — PROJECT #: 10644.33
SITE ID:
SITE ADDRESS: — OBSERVER(S): PETE VITAL
START DATE: 6/7/18 — END DATE: 6/7/18
START TIME: 9:33 — END TIME: 9:48

METEOROLOGICAL CONDITIONS

TEMP: 62 F — HUMIDITY: 67 % R.H. — WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH — DIR. N NE S SE S SW W NW — VARIABLE STEADY GUSTY
SKY: (SUNNY) CLEAR OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 — TYPE 1 (2) — SERIAL # 130927046
CALIBRATOR: BSWA CA 114 — SERIAL # 480151
CALIBRATION CHECK — PRE-TEST ____ dBA SPL — POST-TEST ____ dBA SPL — WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
25-26(ST1)	9:33	9:48	63.9	82.1	48.7				

COMMENTS: IN FRONT OF 12734 WOODLEY AVE (RESIDENTIAL); LIGHT TRAFFIC; OCCASIONAL AIRPLANE FLYOVERS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT — DIST. TO RDWY C/L OR EOP: 28'6"

TRAFFIC COUNT DURATION: ___ MIN — SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ____

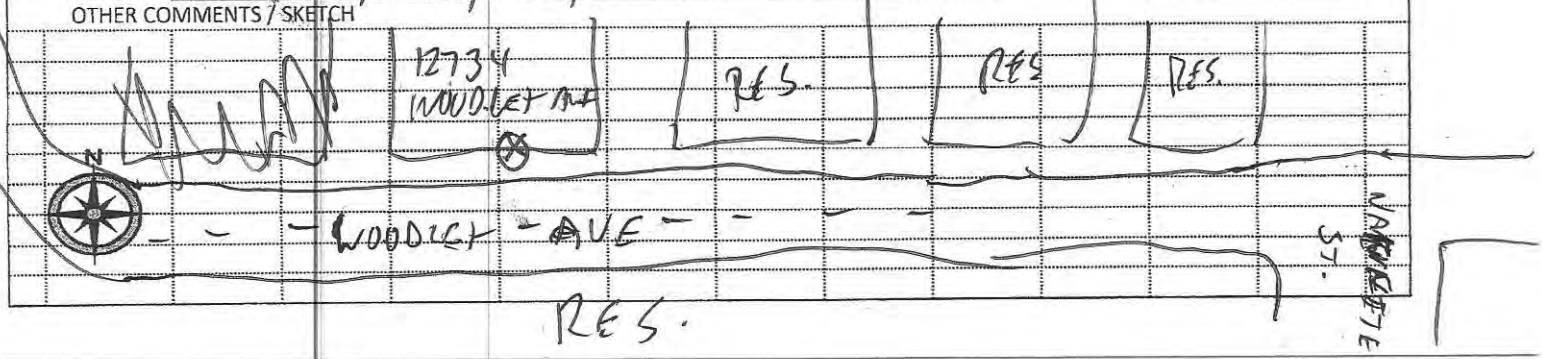
COUNT 2 (OR RDWY 2) ___ MIN — SPEED	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1531; 1532; 1533; 1534
OTHER COMMENTS / SKETCH



BAC BUA

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: NADWP VAN NORMAN IS | PROJECT #: 10649.33
SITE ID:
SITE ADDRESS: | OBSERVER(S): PETE VITAN
START DATE: 6/7/18 | END DATE: 6/7/18
START TIME: 9:58 | END TIME: 10:13

METEOROLOGICAL CONDITIONS

TEMP: 62 F | HUMIDITY: 67 % R.H. | WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH | DIR. N NE S SE S SW W NW | VARIABLE STEADY GUSTY
SKY: SUNNY (CLEAR) OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 | TYPE 1 (2) | SERIAL # 1309270046
CALIBRATOR: BSWA CA-114 | SERIAL # 480151
CALIBRATION CHECK: PRE-TEST ____ dBA SPL | POST-TEST ____ dBA SPL | WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
27-28 (ST2)	9:58	10:13	65.0	85.2	49.5				

COMMENTS: IN FRONT OF 12000 WOODLEY AVE (RESIDENTIAL); LIGHT TRAFFIC; OCCASIONAL AIRPLANE FLYOVER

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT | DIST. TO RDWY C/L OR EOP: 29'6"
TRAFFIC COUNT DURATION: ___ MIN SPEED ___ MIN SPEED

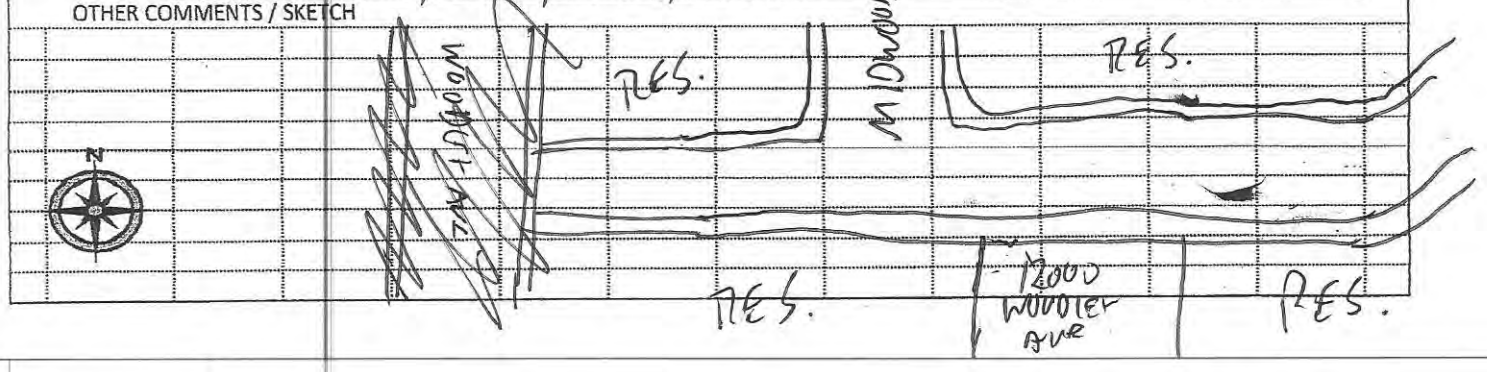
COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS										
MED TRKS										
HVY TRKS										
BUSES										
MOTRCLS										

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1535; 1536; 1537; 1538
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT LADWP VAN NORMAN 15 PROJECT # 10649.33
SITE ID
SITE ADDRESS OBSERVER(S) PETE VITAN
START DATE 6/7/18 END DATE 6/7/18
START TIME 10:30 END TIME 10:45

METEOROLOGICAL CONDITIONS
TEMP 66 F HUMIDITY 62 % R.H. WIND (CALM) LIGHT MODERATE
WINDSPD ___ MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY (SUNNY) CLEAR OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-P3 TYPE 1 (2) SERIAL # 1309270046
CALIBRATOR BSWA CA 114 SERIAL # 480151
CALIBRATION CHECK PRE-TEST ___ dBA SPL POST-TEST ___ dBA SPL WINDSCRN YES

SETTINGS A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER: ___

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
29-30 (ST3)	10:30	10:45	70.9	81.7	55.0				

COMMENTS
TAKEN FROM FENCELINE OF GRADY WILS LITTLE LEAGUE FIELD ON RINALDI ST. ACROSS RINALDI ST FROM 16052 RINALDI ST; PRIMARY NOISE SOURCE - TRAFFIC ON RINALDI ST.

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER: ___
ROADWAY TYPE: ASPHALT DIST. TO RDWY C/L OR EOP: 82'

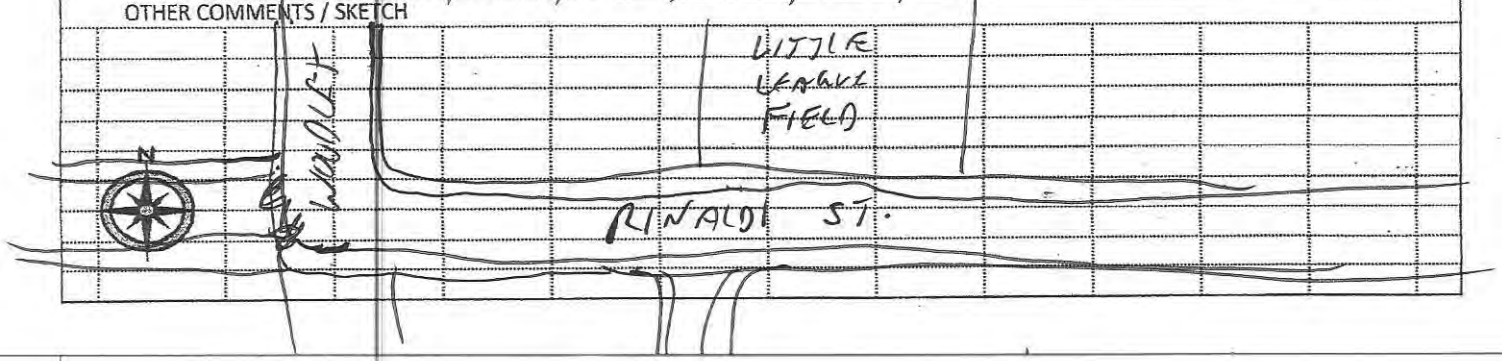
TRAFFIC COUNT DURATION: ___ MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS									
MED TRKS									
HVY TRKS									
BUSES									
MOTRCLS									

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: ___

DESCRIPTION / SKETCH
TERRAIN (HARD) SOFT MIXED FLAT OTHER: ___
PHOTOS 1540; 1541; 1542; 1543; 1544; 1545
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: KADWP VAN NORMAN IS — PROJECT #: 10649.33
SITE ID:
SITE ADDRESS: — OBSERVER(S): PETE VITAL
START DATE: 6/7/18 — END DATE: 6/7/18
START TIME: 10:52 — END TIME: 11:07

METEOROLOGICAL CONDITIONS

TEMP: 66 F — HUMIDITY: 62 % R.H. — WIND: (CALM) LIGHT MODERATE VARIABLE STEADY GUSTY
WINDSPD: MPH — DIR. N NE E SE S SW W NW
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 — TYPE 1 (2) — SERIAL # 1309270046
CALIBRATOR: BSWA CA 114 — SERIAL # 480151
CALIBRATION CHECK — PRE-TEST _____ dBA SPL — POST-TEST _____ dBA SPL — WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
31-32 (ST4)	10:52	11:07	58.6	78.8	51.7				

COMMENTS: IN FRONT OF 11566 COLLET AVE (RESIDENTIAL); VERY LIGHT TRAFFIC ON COLLET AVE; TRAFFIC AUDIBLE FROM RINALDI AVE; BIRDS CHIRPING LOUDLY;

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT — DIST. TO RDWY C/L OR EOP: 17'6"

TRAFFIC COUNT DURATION: ___ MIN — SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

TRAFFIC COUNT DURATION: ___ MIN — SPEED

COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING (DIST. TRAFFIC (LIST RDWYS BELOW)) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: TRAFFIC ON RINALDI ST

DESCRIPTION / SKETCH

TERRAIN (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1546; 1547; 1548; 1549
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN 15 | PROJECT #: 10644.33
SITE ID:
SITE ADDRESS: | OBSERVER(S): PETE VITAN
START DATE: 6/7/18 | END DATE: 6/7/18
START TIME: 11:22 | END TIME: 11:37

METEOROLOGICAL CONDITIONS

TEMP: 66 F | HUMIDITY: 62 % R.H. | WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH | DIR. N NE S SE S SW W NW | VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) | OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 | TYPE 1 (2) | SERIAL # 1309270046
CALIBRATOR: BSWA CA-114 | SERIAL # 480151
CALIBRATION CHECK | PRE-TEST: dBA SPL | POST-TEST: dBA SPL | WINDSCRN: YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
33-34 (ST5)	11:22	11:37	64.2	86.8	54.9				

COMMENTS: TAKEN AT FRONT GATE OF 15625 ODYSSEY DR (RESIDENTIAL - GATED TOWNHOME COMPLEX); PRIMARY NOISE SOURCE - TRAFFIC ON [redacted] 405 FWY; VERY LIGHT TRAFFIC ON ODYSSEY DR.

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT | DIST. TO RDWY C/L OR EOP: 28'6"
TRAFFIC COUNT DURATION: ___ MIN SPEED

COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
	AUTOS				
	MED TRKS				
	HVY TRKS				
	BUSES				
	MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

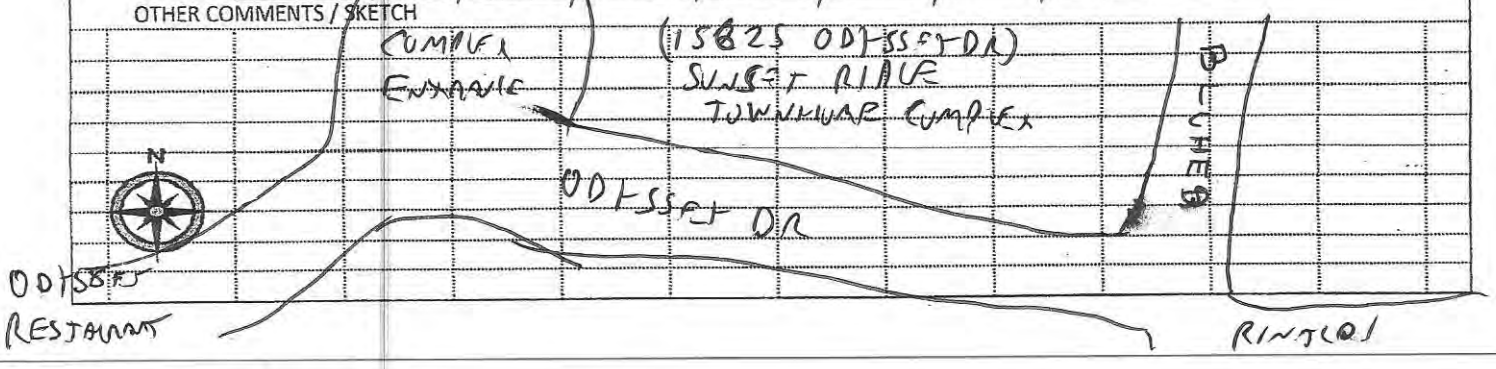
COUNT 2 (OR RDWY 2)	___ MIN	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: [redacted] 405/[redacted] FWY

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1550; 1551; 1552; 1553; 1554; 1555; 1556
OTHER COMMENTS / SKETCH



Construction Noise Model Input / Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Bee Drainage Channel

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 575'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	575	0
Backhoe	No	40		77.6	575	0
Front End Loader	No	40		79.1	575	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Backhoe	56.3	52.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	57.9	53.9	N/A	N/A	N/A	N/A	N/A
Total	59.5	58.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe	54	50.1	N/A	N/A	N/A	N/A	N/A

Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A	N/A
	Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Bull Creek Extension

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0
Crane	No	16		80.6	1100	0

		Results					
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe	50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	52.3	48.3	N/A	N/A	N/A	N/A	N/A
Crane	53.7	45.7	N/A	N/A	N/A	N/A	N/A
Total	53.9	54	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1200'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1200	0
Backhoe	No	40		77.6	1200	0
Front End Loader	No	40		79.1	1200	0
Crane	No	16		80.6	1200	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		53.1	49.1	N/A	N/A	N/A	N/A	N/A
Backhoe		50	46	N/A	N/A	N/A	N/A	N/A
Front End Loader		51.5	47.5	N/A	N/A	N/A	N/A	N/A
Crane		52.9	45	N/A	N/A	N/A	N/A	N/A
	Total	53.1	53.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Crane	No	16		80.6	0	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
Crane			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_East Channel

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe		50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader		52.3	48.3	N/A	N/A	N/A	N/A	N/A
	Total	53.9	53.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1600'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1600	0
Backhoe	No	40		77.6	1600	0
Front End Loader	No	40		79.1	1600	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		50.6	46.6	N/A	N/A	N/A	N/A	N/A
Backhoe		47.5	43.5	N/A	N/A	N/A	N/A	N/A
Front End Loader		49	45	N/A	N/A	N/A	N/A	N/A
	Total	50.6	50	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_LAR North Dike Stormwater Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 2000'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2000	0
Backhoe	No	40		77.6	2000	0
Front End Loader	No	40		79.1	2000	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	48.7	44.7	N/A	N/A	N/A	N/A	N/A
Backhoe	45.5	41.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	47.1	43.1	N/A	N/A	N/A	N/A	N/A
Total	48.7	48.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Typical Receiver 2100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe		45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		46.6	42.7	N/A	N/A	N/A	N/A	N/A
	Total	48.2	47.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018

Case Description: LADWP_LAR UV Plant Drainage and V-Ditch

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0
Tractor	No	40	84		1800	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe		46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader		48	44	N/A	N/A	N/A	N/A	N/A
Tractor		52.9	48.9	N/A	N/A	N/A	N/A	N/A
	Total	52.9	51.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 2300'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2300	0
Backhoe	No	40		77.6	2300	0
Front End Loader	No	40		79.1	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	47.5	43.5	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A

Front End Loader		45.9	41.9	N/A	N/A	N/A	N/A	N/A
Tractor		50.7	46.8	N/A	N/A	N/A	N/A	N/A
	Total	50.7	49.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

	Results						
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Lower San Fernando Dentention Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1500'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	1500	0
Backhoe	No	40		77.6	1500	0
Front End Loader	No	40		79.1	1500	0

Tractor	No	40	84		1500		0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	51.2	47.2	N/A	N/A	N/A	N/A	N/A
Backhoe	48	44	N/A	N/A	N/A	N/A	N/A
Front End Loader	49.6	45.6	N/A	N/A	N/A	N/A	N/A
Tractor	54.5	50.5	N/A	N/A	N/A	N/A	N/A
Total	54.5	53.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2300'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	2300	0
Backhoe	No	40		77.6	2300	0
Front End Loader	No	40		79.1	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	47.5	43.5	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A
Front End Loader	45.9	41.9	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A
Total	50.7	49.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)

Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Middle Debris Basin

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 750'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe	54	50.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	55.6	51.6	N/A	N/A	N/A	N/A	N/A
Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

				---- Receptor #2 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Typical Receiver 1500'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1500	0
Backhoe	No	40		77.6	1500	0
Front End Loader	No	40		79.1	1500	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		51.2	47.2	N/A	N/A	N/A	N/A	N/A
Backhoe		48	44	N/A	N/A	N/A	N/A	N/A
Front End Loader		49.6	45.6	N/A	N/A	N/A	N/A	N/A
	Total	51.2	50.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_San Fernando Creek

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 350'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	350	0
Backhoe	No	40		77.6	375	0
Front End Loader	No	40		79.1	400	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		63.8	59.8	N/A	N/A	N/A	N/A	N/A
Backhoe		60.1	56.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		61	57.1	N/A	N/A	N/A	N/A	N/A
	Total	63.8	62.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe		54	50.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A	N/A
	Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_San Fernando Gate Drainage Feature

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 1300'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1300	0
Backhoe	No	40		77.6	1300	0
Front End Loader	No	40		79.1	1300	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		52.4	48.4	N/A	N/A	N/A	N/A	N/A
Backhoe		49.3	45.3	N/A	N/A	N/A	N/A	N/A
Front End Loader		50.8	46.8	N/A	N/A	N/A	N/A	N/A
	Total	52.4	51.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe		46.4	42.5	N/A	N/A	N/A	N/A	N/A

Front End Loader		48	44	N/A	N/A	N/A	N/A	N/A
	Total	49.6	49	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper Debris Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe		46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader		48	44	N/A	N/A	N/A	N/A	N/A
	Total	49.6	49	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1900'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1900	0
Backhoe	No	40		77.6	1900	0
Front End Loader	No	40		79.1	1900	0

	Results	
	Calculated (dBA)	Noise Limits (dBA)

Equipment		*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator		49.1	45.1	N/A	N/A	N/A	N/A	N/A
Backhoe		46	42	N/A	N/A	N/A	N/A	N/A
Front End Loader		47.5	43.5	N/A	N/A	N/A	N/A	N/A
	Total	49.1	48.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper Northeast Drainage

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Equipment		*Lmax	Leq					
Excavator		53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe		50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader		52.3	48.3	N/A	N/A	N/A	N/A	N/A
	Total	53.9	53.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1200'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1200	0
Backhoe	No	40		77.6	1200	0

Front End Loader	No	40	79.1	1200	0	

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	53.1	49.1	N/A	N/A	N/A	N/A	N/A
Backhoe	50	46	N/A	N/A	N/A	N/A	N/A
Front End Loader	51.5	47.5	N/A	N/A	N/A	N/A	N/A
Total	53.1	53.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0	0			0
Backhoe			0	0			0
Front End Loader			0	0			0
Total	0	0		0			0

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 2100'	Residential	65	60	55

Equipment

	Spec	Actual	Receptor	Estimated

Description	Impact Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe		45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		46.6	42.7	N/A	N/A	N/A	N/A	N/A
	Total	48.2	47.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2700'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2700	0
Backhoe	No	40		77.6	2700	0
Front End Loader	No	40		79.1	2700	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		46.1	42.1	N/A	N/A	N/A	N/A	N/A
Backhoe		42.9	38.9	N/A	N/A	N/A	N/A	N/A
Front End Loader		44.5	40.5	N/A	N/A	N/A	N/A	N/A
	Total	46.1	45.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line Feature 1

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Nearest Receiver 2500'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2500	0
Backhoe	No	40		77.6	2500	0
Front End Loader	No	40		79.1	2500	0
Tractor	No	40	84		2500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	46.7	42.8	N/A	N/A	N/A	N/A	N/A
Backhoe	43.6	39.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	45.1	41.2	N/A	N/A	N/A	N/A	N/A
Tractor	50	46	N/A	N/A	N/A	N/A	N/A
Total	50	49.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2750	0
Backhoe	No	40		77.6	2750	0
Front End Loader	No	40		79.1	2750	0
Tractor	No	40	84		2750	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	45.9	41.9	N/A	N/A	N/A	N/A	N/A
Backhoe	42.8	38.8	N/A	N/A	N/A	N/A	N/A
Front End Loader	44.3	40.3	N/A	N/A	N/A	N/A	N/A
Tractor	49.2	45.2	N/A	N/A	N/A	N/A	N/A
Total	49.2	48.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line Feature 2

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 2500'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2500	0
Backhoe	No	40		77.6	2500	0
Front End Loader	No	40		79.1	2500	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax

Excavator		46.7	42.8	N/A	N/A	N/A	N/A	N/A
Backhoe		43.6	39.6	N/A	N/A	N/A	N/A	N/A
Front End Loader		45.1	41.2	N/A	N/A	N/A	N/A	N/A
	Total	46.7	46.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2550'	Residential	65	60	55

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	2550	0
Backhoe	No	40		77.6	2550	0
Front End Loader	No	40		79.1	2550	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	46.6	42.6	N/A	N/A	N/A	N/A	N/A
Backhoe	43.4	39.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	45	41	N/A	N/A	N/A	N/A	N/A
Total	46.6	46	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	

Backhoe		0	0	0	
Front End Loader		0	0	0	
	Total	0	0	0	0

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Yarnell Debris Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0
Tractor	No	40	84		1800	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe		46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader		48	44	N/A	N/A	N/A	N/A	N/A
Tractor		52.9	48.9	N/A	N/A	N/A	N/A	N/A
	Total	52.9	51.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Tractor	No	40	84	2100	0	

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe	45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	46.6	42.7	N/A	N/A	N/A	N/A	N/A
Tractor	51.5	47.6	N/A	N/A	N/A	N/A	N/A
Total	51.5	50.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

APPENDIX E

Trip Generation Memo

DUDEK

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TECHNICAL MEMORANDUM

To:	Christopher Lopez, LADWP
From:	Dennis Pascua, Transportation Services Manager
Subject:	Trip Generation Analysis for Vegetation Management and Maintenance Activities at the Van Norman Complex, LADWP
Date:	July 19, 2018
cc:	Rachel Struglia, Dudek
Attachments:	Figure 1 – VNC Facilities

The following memorandum presents a trip generation analysis for the proposed vegetation management and maintenance activities at the Los Angeles Department of Water and Power's (LADWP) Van Norman Complex (VNC) in the Granada Hills area of the San Fernando Valley, in the City of Los Angeles (City). The approximately 1,340 acre diamond shaped complex is located approximately 0.45-miles northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange. It is bounded by I-5 to the northeast and east, Balboa Avenue to the northwest, Woodley Avenue to the west, Rinaldi Street, I-405 and commercial and residential development to the south.

Per the City of Los Angeles Department of Transportation (LADOT) *Traffic Impact Study Guidelines* (2016), the general parameters for determining the appropriate transportation impact review process for a Development Project are as follows:

- A **Technical Memorandum** is required when the Development Project is likely to add 25 to 42 AM or PM peak hour vehicle trips, and the adjacent intersection(s) are presently estimated to be operating at LOS E or F. The scope of work of a Technical Memorandum, which is a significantly scaled-down version of a TIS, must be reviewed and approved by LADOT.
- A **Transportation Impact Study (TIS)**, previously referred to as a Traffic Study, is required when the Development Project is likely to add 43 or more a.m. or p.m. peak hour vehicle trips.

The following trip generation analysis of the proposed project will determine whether a higher level of analysis would be required by LADOT, and provide a qualitative assessment of whether the proposed project would create any significant traffic impacts.

PROJECT DESCRIPTION

The LADWP supplies water and electricity to the 4 million residents, businesses, and visitors in the City. As part of its water supplying infrastructure, the LADWP owns and operates the Van Norman Complex (VNC). The complex consists of several existing water facilities, including water storage reservoirs and detention basins that cumulatively function to receive, store, treat, and distribute water to the City. As part of maintaining its water infrastructure at the VNC, the LADWP seeks to perform ongoing vegetation management and maintenance activities at 15 facilities throughout the complex in order to ensure that the facilities are functioning properly. These facilities include:

1. Upper Debris Basin
2. Middle Debris Basin
3. Bee Drainage Channel
4. San Fernando Gate Drainage Feature
5. Upper San Fernando Drain Line
6. Upper San Fernando Drain Line Feature 1
7. Upper San Fernando Drain Line Feature 2
8. Yarnell Debris Basin
9. Lar UV Plant Drainage and V-Ditch
10. San Fernando Creek
11. Lower San Fernando Detention Basin
12. Bull Creek Extension (Sediment Basin)
13. Upper Northeast Drainage
14. Lar North Dike Stormwater Basin
15. East Channel

Figure 1 shows the locations of each of the facilities listed above within the VNC.

TRIP GENERATION

Trip generation estimates for the vegetation maintenance activities on the VNC were based on operational information provided by LADWP. The following assumptions were made for each activity:

- The maintenance activity completed for each of the 15 facilities will not overlap on the same day because LADWP will be using the same in-house crew at each facility. Even with the use of one crew, all work at the facilities can be completed between September and January.
- Maintenance crew work hours are from 7:00 a.m. to 3:00 p.m., with crew members arriving at the VNC before the AM peak period, and departing the VNC in the PM peak period.
- Haul trucks will arrive at each facility at 6:00 a.m., before the AM peak period, and depart each facility at 3:00 p.m., in the PM peak period. No outside contractors will be used.
- Haul trucks are 10-cubic yards trucks with 2-3 axles. A passenger-car equivalence (PCE) factor of 2.5 will be applied for trip generation purposes.

Table 1 presents the trip generation estimates of the vegetation maintenance activities at each of the facilities at the VNC.

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
Upper Debris Basin									
- Workers	4 workers	9–14 days	8	0	0	0	0	4	4
- Haul Trucks	4 trucks (2.5 PCE)		20	0	0	0	0	10	10
Total in PCE Trips			28	0	0	0	0	14	14
Middle Debris Basin									
- Workers	4 workers	9–14 days	8	0	0	0	0	4	4
- Haul Trucks	4 trucks (2.5 PCE)		20	0	0	0	0	10	10
Total in PCE Trips			28	0	0	0	0	14	14
Bee Drainage Channel									
- Workers	4 workers	1–2 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			13	0	0	0	0	7	7

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
San Fernando Gate Drainage Feature									
- Workers	4 workers	1–2 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			18	0	0	0	0	9	9
Upper San Fernando Drain Line									
- Workers	4 workers	3–5 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			13	0	0	0	0	7	7
Upper San Fernando Drain Line Feature 1									
- Workers	4 workers	1–3 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			18	0	0	0	0	9	9
Upper San Fernando Drain Line Feature 2									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			9	0	0	0	0	5	5
Yarnell Debris Basin									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			4	0	0	0	0	2	2
LAR UV Plant Drainage and V-ditch									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			4	0	0	0	0	2	2
San Fernando Creek									
- Workers	4 workers	2–7 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			18	0	0	0	0	9	9
Lower San Fernando Detention Basin									
- Workers	2 workers	6 days	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			4	0	0	0	0	2	2
Bull Creek Extension (Sediment Basin)									
- Workers	4 workers	2 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			13	0	0	0	0	7	7

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
Upper Northeast Drainage									
- Workers	4 workers	1 day	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			13	0	0	0	0	7	7
LAR North Dike Stormwater Basin									
- Workers	4 workers	5–7 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			18	0	0	0	0	9	9
East Channel									
- Workers	4 workers	3 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			13	0	0	0	0	7	7

Notes: PCE – Passenger-car Equivalence.

As mentioned previously, LADWP has indicated that the maintenance activity completed for each of the 15 facilities will not overlap on the same day because LADWP will be using the same in-house crew at each facility. Therefore, based on the table above, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin facilities, separately. Maintenance activities at those facilities would generate approximately 28 passenger-car equivalent (PCE) daily trips, zero PCE AM peak hour trips, and 14 PCE PM peak hour trips, at each of those facilities.

At all facilities, daily trips would range from 4 to 28 PCE trips at each facility. There would be no AM peak hour trips since all workers and haul trucks would arrive at each facility before the AM peak hours, starting at 7:00 a.m. For the PM peak hour, trips from each facility would range between 2 and 14 PCE trips.

CONCLUSION

Based on trip generation analysis above, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin facilities, separately. Maintenance activities at those facilities would generate approximately 28 passenger-car equivalent (PCE) daily trips, zero PCE AM peak hour trips, and 14 PCE PM peak hour trips, at each of those facilities.

Per the LADOT *Traffic Impact Study Guidelines*, neither a Technical Memorandum nor TIS would be required for the proposed project since it would generate less than 25 to 42 a.m. or p.m. peak hour vehicle trips. Furthermore, traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the facility. All maintenance activities would occur on the VNC site and would not require any (temporary) closures to public streets. Due to the relatively low, and temporary, traffic volumes generated by the proposed project, it would not have a measurable impact on the adjacent street network, and therefore, would not create a significant traffic impact.

SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 1

Project Site

LADWP Van Norman Complex

APPENDIX F

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

Van Norman Complex Routine Operation and Maintenance Program

PREPARED BY

Los Angeles Department of Water & Power

Environmental Affairs

111 North Hope Street, Room 1044

Los Angeles, California 90012

WITH ASSISTANCE FROM

DUDEK

27372 Calle Arroyo

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1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that a public agency adopting a Mitigated Negative Declaration take affirmative steps to determine that approved mitigation measures are implemented subsequent to project approval. This Mitigation Monitoring and Reporting Program has been developed in compliance with CEQA to ensure that the Los Angeles Department of Water and Power (LADWP), as lead agency, implements the mitigation measures and the avoidance and minimization measures identified within the Van Norman Complex Routine Operation and Maintenance Program Initial Study and Mitigated Negative Declaration.

This Mitigation and Monitoring Program includes the following information:

- A list of mitigation measures and avoidance and minimization measures;
- The party responsible for implementing or monitoring the mitigation measures and avoidance and minimization measures;
- The timing for implementation of the mitigation measures and avoidance and minimization measures; and
- The date of completion of monitoring the mitigation measures and avoidance and minimization measures.

LADWP will adopt this Mitigation Monitoring and Reporting Program, or an equally effective program, if it approves the proposed Van Norman Complex Routine Operation and Maintenance Program (project).

2 MITIGATION MONITORING AND REPORTING PROGRAM

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
Biological Resources						
AMM-BIO-1	<u>Resource Protection</u> **Designated Biologist.** A Designated Biologist shall monitor all ground or vegetation disturbing activities within the drainage channels and basins in the VNC. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources and able to identify those resources present at the VNC. The Designated Biologist shall work with the construction manager to halt or redirect any activity to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. **Leave Wildlife Unharmed.** The Designated Biologist shall be present during all vegetation-removal and rough grading activities to monitor for non-listed, special-status, and/or common ground-dwelling vertebrates encountered in the path of project-related activities. The Designated Biologist shall make every effort to relocate the species out of harm's way to the extent feasible by doing one of the following: 1) Utilize shovel, rake, or similar hand tool to gently re-direct the animal out of work area; 2) Install silt fence or other exclusionary fencing to prevent species from re-entering disturbance area; or 3) If the Designated Biologist has the appropriate handling permits, he/she may capture/relocate species to appropriate habitat outside the disturbance area. The Designated Biologist shall work with the construction manager to temporarily halt or redirect construction activities until the species is determined to be out of harm's way. Any	Prior to and during project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	exclusionary devices shall be checked by a biological monitor on a weekly basis to check/ensure continued exclusionary device effectiveness. Bird Breeding/Nesting Period. LADWP shall make every effort to conduct project activities outside of the bird breeding/nesting season from February 1 to September 15 to avoid impacts to breeding/nesting birds. If work cannot be avoided, then the Designated Biologist shall conduct two focused surveys for breeding/nesting birds no earlier than 3 days prior to the beginning of project- related activities. If any nests are found, the Designated Biologist shall implement a default 300 foot minimum avoidance buffer for all passerine birds and 500 foot minimum avoidance buffer for all raptor species. The breeding habitat/nest site shall be fenced and/or flagged in all directions, and this area shall not be disturbed until the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the project. Preconstruction Surveys. The Designated Biologist shall conduct a pre- construction general biological survey for species of concern, including western spadefoot toad, likely to be found in the area or using the area to forage during the proposed construction activities. The surveys shall be conducted within one week prior to start of work. Survey limits shall be determined by the Designated Biologist and shall include all areas within the project footprint. Should any species of concern be found, the LADWP shall develop and implement a plan for the protection of these species.					
AMM-BIO-2	Habitat Protection Demarcate Work Area Boundary. In consultation with the Designated Biologist, LADWP shall demarcate the outer	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	perimeter of the work area to prevent damage to adjacent habitat and to provide visual orientation to its limits. Marking shall be in place during all periods of operation. All persons employed or otherwise working on the project site shall be instructed about the restrictions that the marking represents. LADWP shall remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities. Hours of Operation and Lighting. LADWP's maintenance and construction activities shall take place during daylight hours only. No night work or lights are authorized.					
AMM-BIO-3	Placement of In-stream Structures Stranded Aquatic Life. When water is present, the Designated Biologist shall check daily for stranded aquatic life until the water level no longer support aquatic organisms. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the closest body of water adjacent to the work site. Unauthorized Materials. Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life shall be removed prior to inundation by high flows. Excavation Spoils. No castings or spoil from the excavation operations shall be placed on the stream side of the Project site. Spoil storage sites shall not be located within a stream, where spoils can be washed back into a stream, or where it will cover aquatic or riparian vegetation.	During project work	Los Angeles Department of Water and Power			
AMM-BIO-4	Turbidity and Siltation	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	Erosion Control Measures. LADWP shall utilize erosion control measures as specified in the Storm Water Pollution Plan (SWPPP) or Best Management Plan (BMP) prepared by LADWP's Wastewater group Qualified Stormwater Developer (QSD) throughout all phases of operation where sediment runoff from exposed slopes threatens to enter a river, stream, or lake. Any type of erosion control blanket or other product should not use plastic and shall be weed-free to the extent possible. If netting is to be used, it should be flexible (e.g., "soft" hemp) so that snakes or other animals do not become trapped in the netting. Sediment and Runoff Control. Sediment from project-related activities shall not be placed in seasonally dry portions of the stream where it might likely be washed into the stream or inundated by high flows, or where it is likely to have a negative impact on emergent native vegetation, or where it is likely to have a negative impact on native trees. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion. Contaminated Site Water. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a flowing stream, dry ephemeral stream or into storm drains. Such water shall be settled, filtered, or otherwise treated prior to discharge back into the water body. Minimize Turbidity and Siltation. LADWP shall take precautions to minimize turbidity/siltation during construction and post-construction periods as specified in the SWPPP or BMP Plan. Precautions should include, but are not limited to: pre-construction planning to identify site-specific turbidity and siltation minimization measures and best management erosion					

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	control practices; best management erosion control practices during project activity; and settling, filtering, or otherwise treating silty and turbid water prior to discharge into a stream or storm drain.					
AMM-BIO-5	<u>Equipment and Access</u> Staging and Vehicle Storage. Staging/storage areas for equipment and materials shall be located outside of the stream in an area specified in the SWPPP or BMP Plan.	During project work	Los Angeles Department of Water and Power			
AMM-BIO-6	<u>Pollution, Litter, and Cleanup</u> Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the ephemeral drainage shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat. All refueling and maintenance of equipment and vehicles shall be at least 150 feet from any aquatic habitat, wetland area, water body, or ephemeral drainages. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream, lake or ephemeral drainage shall have measures in place to prevent any leaks or seeps from entering the waterway. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as extra boom, absorbent pads, skimmers, shall be accessible during the project-related activities. Pollutants and Debris. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, construction waste, cement or concrete or washings thereof, asphalt, paint, oil or other petroleum products or any other substances which could be hazardous to aquatic life, or other organic or earthen material from any logging, construction, or other associated Project-related activity shall be allowed to contaminate the soil and/or enter into or placed where	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	it may be washed by rainfall or runoff into, any stream/channel/culvert/ditch. Any of these materials, placed within or where they may enter a stream/channel/culvert/ditch, by LADWP or any party working under contract, or with the permission of LADWP, shall be removed immediately. When Project-related activities are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream. Pollution Compliance. LADWP shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the LADWP to ensure compliance. Trash Receptacles. LADWP shall install and use fully covered trash receptacles with secure lids (wildlife proof) that contain all food, food scrapes, food wrappers, beverage containers and other miscellaneous trash generated by work force personnel. Following construction, all trash and construction debris shall be removed from the project site. Remove Temporary Flagging, Fencing, and Barriers. LADWP shall remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.					
AMM-BIO-7	<u>Exotic Species Removal and Control</u> LADWP shall also perform exotic species removal and control as defined by the following measures. Remove Invasive Vegetation by Hand. Whenever practicable, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where chemical control of non-native vegetation is deemed necessary within the bed, bank, or channel of the stream and there is a possibility that the herbicides could contact water, LADWP shall employ only	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	those herbicides that are approved for aquatic use. If surfactants are required, they should be restricted to non-ionic chemicals that are approved for aquatic use. All herbicide use conditions for mixing, application and clean-up shall conform to all applicable federal, State, and local regulations. Any application of herbicide shall be done by a licensed or certified applicator in accordance with all applicable, federal ,state, and local. Herbicides shall be used only for selective treatment of non-native vegetation identified as invasive by California Invasive Plant Council.. Invasive Plant Control/Eradication. To minimize the spread of invasive plant species to uninfested areas within and outside of the project site, LADWP shall implement control and eradication activities prior to the initiation of ground-disturbing activities. LADWP shall utilize· control and eradication methods that are specific to the target species, avoid the spread and proliferation of other invasive plant species, and minimize damage to and/or removal of native plant species. All nonnative and invasive plants controlled or eradicated at the project site shall be removed and disposed of in a manner that prevents the introduction and establishment of those species to new areas. Invasive Species. LADWP shall conduct project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.), from one project site and/or watershed to another. Prevention Best Management Practices (BMPs) and guidelines for invasive plants can be found on the California Invasive Plant Council's website at: http://www.cal-ipc.org/ip/prevention/index.php and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website: http://www.protectyourwaters.net/.					

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	Inspection of Project Equipment. LADWP shall inspect all vehicles, tools, waders and boots, and other project-related equipment and remove all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the stream and/or between each use in different watersheds. Decontamination of Project Equipment. LADWP shall decontaminate all tools, waders and boots, and other equipment that will enter the streambed and make contact with water or wetted soils prior to entering and after exiting the stream. If decontamination for aquatic invasive animal species is applicable, LADWP shall decontaminate project gear and equipment utilizing one of three methods: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. For all methods, LADWP should begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, LADWP should allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, LADWP shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, LADWP shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment and clothing is removed from the site, used within a different watersheds, and returned to the project site. Decontamination of Vehicles and Equipment. If decontamination for aquatic invasive animal species is applicable, LADWP shall decontaminate vehicles and other project-related equipment too large to immerse in a hot water bath by pressure washing with hot water a minimum of 140°F at					

Table 1. Mitigation Measures and Avoidance and Minimization Measures

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	the point of contact or 155°F at the nozzle. Additionally, LADWP shall flush watercraft engines and all areas that could contain standing water (e.g. storage compartments) for a minimum of 10 minutes. Following the hot water wash, LADWP shall dry all vehicles, watercraft, and other large equipment as thoroughly as possible. Decontamination Sites. If decontamination for aquatic invasive animal species is applicable, LADWP shall perform decontamination of vehicles, watercraft, and other project gear and equipment in a designated location where runoff can be contained and not allowed to pass into drainage areas and other sensitive habitat areas.					
MM-BIO-1	Removal or disturbance of habitat suitable for least Bell's vireo shall be conducted outside the typical nesting period for this species (approximately March 15 through August 15). Mitigation for permanent impacts to habitat shall be at a ratio of 1:1, or as otherwise determined by applicable resource agency permits. Mitigation shall be a combination of habitat preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency approved permittee responsible mitigation project. Prior to removal or disturbance of suitable and/or occupied least Bell's vireo habitat, and presuming there is risk of "take" under federal or state law, LADWP shall consult with CDFW and USFWS on implementation of this MM-BIO-1 and other minimization and avoid measures as necessary to avoid "take." If "take" is unavoidable, LADWP shall secure the appropriate incidental take authorization or permit under Section 7 of the federal Endangered Species Act and Section 2081 of the California Endangered Species Act. Any measures determined	During project work	Los Angeles Department of Water and Power			

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	to be necessary through the Section 7 or Section 2081 shall be implemented.					
MM-BIO-2	In consultation with the U.S. Army Corps of Engineers, the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW), LADWP shall acquire the appropriate permits and approvals (i.e., Section 404 permit [U.S. Army Corps of Engineers], Section 401 permit [RWQCB], Streambed Alteration Agreement [CDFW]) to address potential temporary and/or permanent impacts to jurisdictional waters if it is deemed required by any of these agencies. Compensatory mitigation for temporary and/or permanent impacts shall be implemented at a minimum ratio of 1:1 and as mutually agreed upon by the Resource Agencies and LADWP, and would include a combination of preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency-approved permittee responsible mitigation project. Either of these options would result in no net loss of jurisdictional aquatic resources.	Prior to commencement of project work	Los Angeles Department of Water and Power			
Cultural Resources						
MM-CUL-1	A qualified archaeologist shall attend the maintenance activity kick-off meeting to coordinate with the Los Angeles Department of Water and Power (LADWP) and the construction foreman to allow for brief inspection of initial ground disturbance within 50 feet of previously recorded archaeological site boundaries. The goal of this meeting will be to determine if more intensive archaeological monitoring is required.	Prior to project work	Los Angeles Department of Water and Power			
MM-CUL-2	To reduce potential impacts to unanticipated cultural resources during project implementation, all construction personnel should undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated archaeological discoveries are treated appropriately. The WEAP training will	Prior to project work	Los Angeles Department of Water and Power			

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Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
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	provide specific details on the kinds of archaeological materials that may be identified during project implementation.					
MM-CUL-3	In the event that archaeological resources (sites, features, or artifacts) are exposed during the maintenance and operation activities for the proposed project, all activities 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 under the California Environmental Quality Act (CEQA) (14 CCR 15064.5(f); California Public Resources Code Section 21082), 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.	During project work	Los Angeles Department of Water and Power			
Geology and Soils						
MM-GEO-1	In the event that paleontological resources (e.g., fossils) are unearthed during project earthmoving, the area of discovery shall be roped off with a 50-foot radius buffer. A qualified paleontologist shall be retained to assess the find and provide appropriate mitigation. Once documentation and collection of the find is completed, the qualified paleontologist will remove the rope and allow ground disturbance to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program for the proposed project. The Paleontological Resources Impact Mitigation Program shall be consistent with the 2010 guidelines of the Society of Vertebrate Paleontology.	During project work	Los Angeles Department of Water and Power			
Hazards and Hazardous Materials						

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				Initials	*Date*	*Remarks*
MM-HAZ-1	The Los Angeles Department of Water and Power (LADWP) shall prepare and implement a Hazardous Site Safety Plan for the Yarnell Debris Basin and Lower San Fernando Detention Basin. The Hazardous Site Safety Plan shall include measures to minimize exposure to workers and for the safe excavation, handling, and disposal of hazardous media. Worker exposure to hazardous substances will be minimized through the implementation of a Health and Safety Plan. The project-specific Health and Safety Plan shall be prepared in accordance with the Occupational Safety and Health Administration standards, included in the Hazardous Site Safety Plan, and implemented during excavation and construction-related activities. The Hazardous Site Safety Plan shall also include procedures for the safe management of hazardous media and shall include, at a minimum, the following: 1. Identification of known areas with hazardous media of concern 2. Instructions for identification of suspect hazardous media 3. Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern if previously unidentified suspect soils are encountered 4. Procedures for limiting access for properly trained personnel to the contaminated area 5. Procedures for characterizing and managing excavated soils 6. Procedures for proper disposal of hazardous media; disposal would be handled by the LADWP Hazardous Substances Group	Prior to commencement of project work	Los Angeles Department of Water and Power			

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	7. Procedures for notification and reporting, including internal management and agencies (e.g., local fire department, Certified Unified Program Agency, US Environmental Protection Agency), as needed.					
Tribal Cultural Resources						
MM-TCR-1	To reduce potential impacts to unanticipated tribal cultural resources (TCRs) during project implementation, maintenance personnel shall undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated TCR discoveries are treated appropriately. The WEAP training will provide specific details on the kinds of Native American cultural resources that may be identified during ground-disturbing activities.	During project work	Los Angeles Department of Water and Power			
MM-TCR-2	While no tribal cultural resources (TCRs) have been identified that may be affected by the project, the following approach for the inadvertent discovery of TCRs has been prepared to ensure there are no impacts to unanticipated resources. Should a potential TCR be encountered during maintenance activities, all work in the immediate vicinity of the discovery (within 50-feet) shall cease, LADWP shall be notified, and a qualified archaeologist meeting Secretary of Interior standards shall assess the find. LADWP will notify Native American tribes consulting under Assembly Bill (AB) 52. If the potential resource is archaeological in nature, appropriate management requirements shall be implemented as outlined in MM-CUL-2.	During project work	Los Angeles Department of Water and Power			
MM-TRC-3	If LADWP determines that the potential resource is a TCR (as defined by PRC, Section 21074), tribes consulting under AB 52 shall be provided a reasonable period of time, typically 5 days from the date that a new discovery is made, to conduct a site visit and make recommendations regarding future ground disturbance activities as well as the treatment and disposition of	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

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	any discovered TCRs. Depending on the nature of the resource and tribal recommendations, review by a qualified archaeologist may be required. Implementation of proposed recommendations will be made based on the determination of LADWP that the approach is reasonable and feasible. The preferred mitigation is to avoid impacts to TCRs, but if that is not feasible, a mitigation and treatment plan will be developed in consultation with the consulting tribes. Work on the other areas of the project site outside of the buffered area may continue during this assessment period. All activities shall be conducted in accordance with regulatory requirements.					
MM-TRC-4	If significant Native American cultural resources are discovered during operations and maintenance and avoidance cannot be ensured, a qualified archaeologist shall be retained to develop a Cultural Resources Treatment Plan, the drafts of which shall be provided to the interested tribe(s) for review and comment. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a Native American monitor. LADWP shall, in good faith, consult with the interested tribe(s) on the disposition and treatment of any artifacts or other cultural materials encountered during the project.	During project work	Los Angeles Department of Water and Power			