THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

ADDENDUM NO. 1 TO THE FINAL JENSEN SOLIDS HANDLING FACILITY PROJECT ENVIRONMENTAL IMPACT REPORT

(State Clearinghouse No. 2009111081)

Report No. 1359

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1.0 INTRODUCTION

1.1 Purpose of Addendum No. 1

The purpose of this Addendum is to evaluate the environmental effects associated with proposed minor modifications to the Jensen Solids Handling Facility Project (Project). The Metropolitan Board of Directors will review the Final Environmental Impact Report (EIR) for the Project and consider its certification and approval of the Project on December 11, 2012, simultaneously with this Addendum that makes minor proposed modifications to the Project.

After development of the draft EIR for the Project, Metropolitan's Board directed staff to work with the Los Angeles Department of Water and Power (LADWP) to further evaluate Project alternatives and potential modifications. After further negotiation, LADWP agreed to allow Metropolitan to continue to use the LADWP on-site lagoons, an alternative that was not previously available. This decision allowed Metropolitan to modify the Project to avoid immediate removal of the recreational ball fields on the Jensen Plant site. In July 2012, Metropolitan's Board authorized an option to negotiate with LADWP to develop a 50-year lease agreement for Metropolitan's use of LADWP solids lagoons to support the Jensen Plant. Metropolitan's staff completed negotiation of the agreement and also negotiated a 45-year agreement between Metropolitan and the Los Angeles Department of Recreation and Parks (LADRP) for their continued use of the ball fields at the Jensen Plant site. Metropolitan staff is planning to request its Board to authorize the two agreements at its December 11, 2012 Board meeting.

As a result of the new Metropolitan-LADWP lagoon use agreement and LADRP lease, the project modifications are being proposed.[a] Addendum No. 1 identifies modifications to the existing Project, specifically the relocation of the Solids Dewatering Facility within the Jensen Plant, elimination of on-site lagoons at the Jensen Plant, refurbishment of existing lagoons at the LADWP Los Angeles Aqueduct Filtration Plant (LAAFP) and construction of a new solids transfer system. These proposed modifications are described in detail in Section 2.0 of this Addendum and are summarized as follows:

Relocation of Solids Dewatering Facility:

- The Solids Dewatering Facility would be relocated to the proposed stockpile area on the future Module No. 4 site, north of the Finished Water Reservoir No. 1.

LADWP Lagoon Refurbishment:

- Construction of earthen dike between LADWP Lagoons Nos. 2 and 3 (330-foot long, 12-foot high, twenty-foot wide at the top of dike with 2.5:1 slope with rip rap on the slope)
- Improvement of lagoon ramps (widening and concrete paving) for the four lagoons
- Construction of new underdrain systems for the four lagoons (total of approximately 14,000feet of six-inch polyvinyl chloride [PVC] pipe)

[a] The project modifications identified in this Addendum are contingent on performance of the obligations under the lagoon use agreement. If for any reason, the lagoon use agreement is terminated or changed, Metropolitan will consider whether additional Project changes or further CEQA analysis is necessary.

- Construct new lagoon decant/underdrain transfer system (3,300 feet of eight-inch pipe, four transfer pumps [one for each lagoon], & one on-line turbidity meter)
- Rehabilitation of existing lagoon decant structures for the four lagoons
- Removal of temporary lagoon decant structures for LADWP Lagoons Nos. 7 and 8
- Isolation of existing lagoon inlet structures
- Modification of the Backwash Water Reclamation Pumping Station for decant/underdrain pipeline connection:
    - Installation of a new motor control center, powers to pumps, and controls at each of four new lagoon control stations

Solids Transfer System:

- 8,000 feet of solids transfer PVC pipeline, which would range from six-inch to ten-inch in diameter
- 80-foot pipe, which will cross the concrete lined portion of the Bull Creek storm channel
- Four steel lagoon inlet piping structures for four lagoons (with four isolation valves)
- Eight additional isolation valves
- 32 cleanouts, eight air-vac valves, and nine air release valve, one flow meter

The environmental impacts associated with construction and operation of the Project components were analyzed in the Final EIR; however, since completion of the Final EIR, the above mentioned minor design changes were proposed. The purpose of Addendum No. 1 is to evaluate potential environmental impacts associated with the proposed minor design changes to the Project. Together, these minor design changes are referred to in this Addendum as the "proposed modifications."

To comply with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) and the *State CEQA Guidelines* (California Code of Regulations Sections 15000 et seq., hereinafter referred to as *Guidelines*), this Addendum to the Final EIR has been prepared to evaluate the environmental impacts associated with the proposed modifications.

1.2 Regulatory Background

According to Section 15164(a) of the *Guidelines*, the lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. Section 15162 of the *Guidelines* lists the conditions that would require the preparation of a subsequent EIR rather than an addendum. These include the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due

to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Metropolitan evaluated the environmental impacts of the proposed modifications, which are described in Section 2.0 of this Addendum, in compliance with the requirements defined under CEQA and the *Guidelines*. As noted in Section 1.4 of this Addendum, Metropolitan, acting as the Lead Agency and LADWP acting as a Responsible Agency, have determined that none of the above conditions apply and an Addendum to the Final EIR is the appropriate environmental documentation for the proposed modifications.

1.3 Incorporation by Reference

Consistent with Section 15150 of the *Guidelines*, the following documents were used in the preparation of this Addendum and are incorporated herein by reference:

- *Final Jensen Solids Handling Facility Project Environmental Impact Report.* The Metropolitan Water District of Southern California. Metropolitan Report No. 1359. December 2012.
- *Jensen Solids Handling Facility Project Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program.* The Metropolitan Water District of Southern California. Metropolitan Report No. 1359. December 2012.

The Final EIR is incorporated by reference for background information purposes. This document is available for review during regular business hours at Metropolitan's Reference and Research Center at Metropolitan's Headquarters Facility located at 700 North Alameda Street, Los Angeles, California 90012.

1.4 Summary of Effects

Section 3.0 of this Addendum presents an analysis of seven environmental categories: air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality,

noise and vibration, and transportation and traffic. The proposed modifications would have the potential to result in minor changes to the above resource topics during construction and operation. As a result, further discussion of the potential impacts to air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise and vibration, and transportation and traffic are analyzed in Section 3.0 below. The analysis provided in the Final EIR for all the other environmental topics, such as aesthetics, geology, soils, and mineral resources, greenhouse gases, land use, population and housing, and public services and utilities would not change as a result of the proposed modifications. Therefore, no written analysis is provided in this Addendum for these environmental topics.

The recreation chapter of the Final EIR discussed potential impacts associated with removal of the existing ball fields for construction of the future lagoon system. This chapter concluded no impact to recreation would occur since the lease agreement between Metropolitan and LADRP would expire prior to construction of the lagoons. However, new negotiations have occurred between Metropolitan and LADRP for their long-term use of the ball fields at the Jensen Plant. As a result, the removal of the ball fields for the construction of five solids drying lagoons as described in the Final EIR will not occur at this time. The new agreement will allow LADRP to continue the use of the ball fields for the next 45 year. As a result, no further analysis will be provided in the Addendum for recreation.

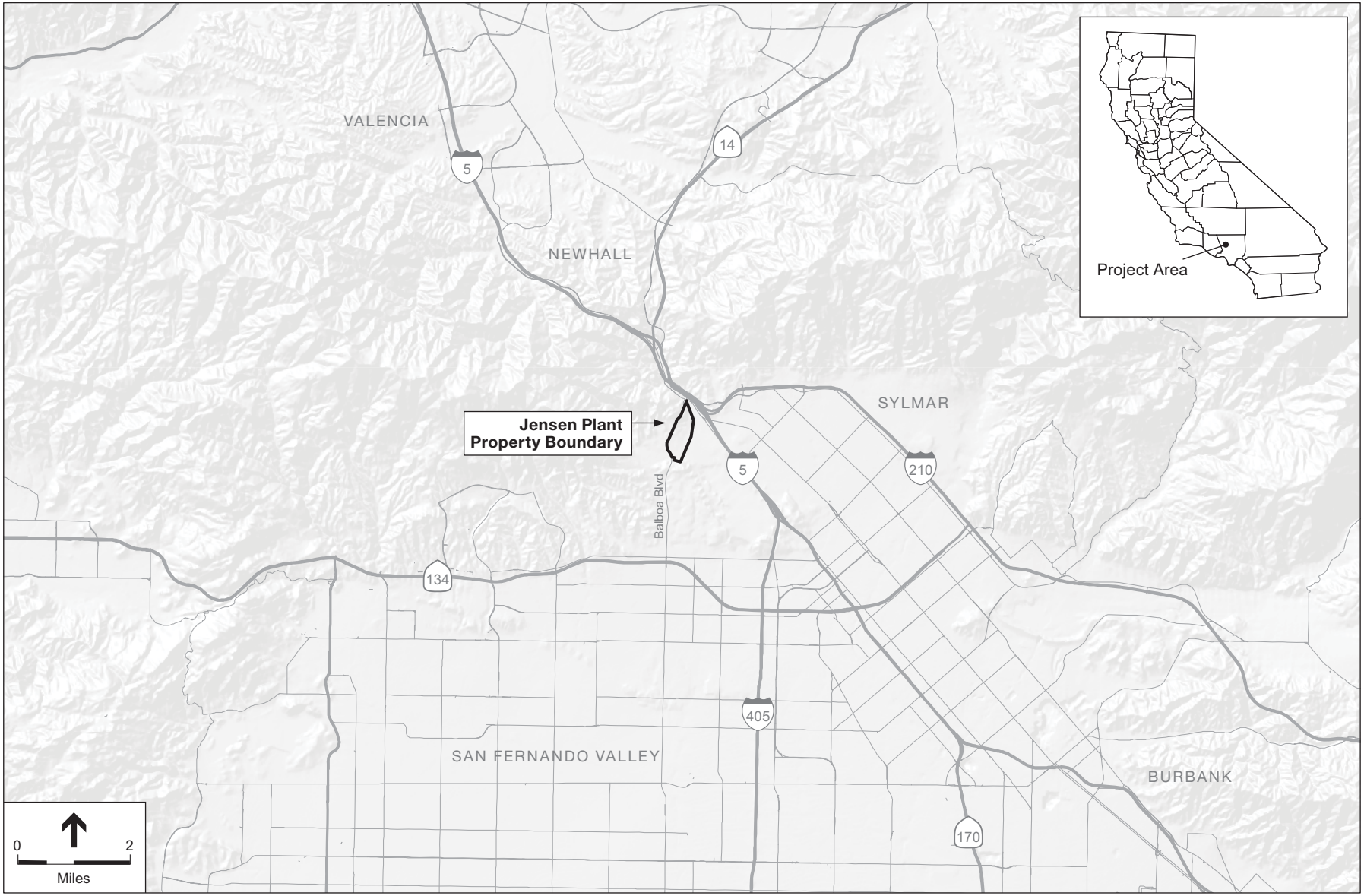
It was determined in this Addendum that the proposed modifications would either reduce the impacts described in the Final EIR or would not change the conclusions of the Final EIR regarding construction air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise and vibration, or transportation and traffic. Consequently, the proposed modifications to the previously-analyzed Project does not meet any of the conditions that would require the preparation of a supplemental EIR or negative declaration set forth in Section 15162 of the *Guidelines* or any of the conditions set forth in Section 15163 of the *Guidelines*, respectively.

2.0 DESCRIPTION OF THE PROPOSED MODIFICATIONS

2.1 Background/Final EIR

The Jensen Plant is located at 13100 Balboa Boulevard in the community of Granada Hills in the City of Los Angeles, California (**Figure 1**). The Jensen Plant is bordered by Balboa Boulevard on the west, Interstate 5 (I-5) and San Fernando Road on the north, the LAAFP on the east, and single-family residential land uses on the south.

The Jensen Plant treats raw water delivered from Castaic Lake and, if necessary, water from the LADWP Los Angeles Aqueduct (LAA). Castaic Lake is supplied by the West Branch of the State Water Project (SWP) via Pyramid Lake, and the LAA is supplied by water from the Eastern Sierra Nevada Mountains and the Owens Valley in east-central California. The Jensen Plant provides drinking water to a large portion of Los Angeles County including the cities of Beverly Hills, Burbank, Los Angeles, San Fernando, and Santa Monica and portions of Orange County. The Las Virgenes Municipal Water District and the Calleguas Municipal Water District in Ventura County also receive treated water from the Jensen Plant.



SOURCE: ESRI, 2010.

Jensen Solids Handling Facility Addendum No.1

Figure 1
Regional Map

Under a cooperative agreement between LADWP and Metropolitan initiated in April 2005, solids produced at the Jensen Plant currently are conveyed via a solids transfer pipeline to solids drying lagoons on LADWP's LAAFP located adjacent to the Jensen Plant. The Metropolitan-LADWP agreement expires in 2014, at which time Metropolitan must have an alternative solids handling facility constructed, if this Project is not completed.

These proposed facilities were evaluated in an EIR pursuant to Section 15070 et seq. of the *Guidelines*. The EIR was circulated for public review from July 6, 2010 to August 20, 2010. The Metropolitan Board of Directors will review the Final EIR and consider its certification and approve of the modified Project on December 11, 2012, simultaneously with this Addendum.

The Project, as described in the Final EIR, involved numerous project components including the construction of a new solids dewatering facility and new solids drying lagoons in the south-eastern portion of the Jensen Plant.

The Final EIR included mitigation measures for several resource areas, including air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise and vibration, and transportation and traffic to ensure that the Project would not result in significant environmental impacts. The mitigation measures will be considered for adoption by Metropolitan's Board on December 12, 2012 along with the certification of the Final EIR and will remain unchanged for purposes of this Addendum. The applicable mitigation measures are identified below in Table 2.1.

TABLE 2.1
FINAL EIR MITIGATION MEASURES

Air Quality

Mitigation Measure AQ-1:	*Water or a stabilizing agent shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes.*
Mitigation Measure AQ-2:	*The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road:* *Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;* *Pave the surface extending at least 100 feet and at least 20 feet wide;* *Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or*
Mitigation Measure AQ-3:	*All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).*
Mitigation Measure AQ-4:	*Heavy-duty equipment operations shall be suspended during first and second stage smog alerts.*
Mitigation Measure AQ-5:	*Ground cover in disturbed areas shall be replaced as quickly as possible.*
Mitigation Measure AQ-6:	*Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour or less.*

Mitigation Measure AQ-7:	*Streets shall be swept at the end of the day if visible soil is carried onto adjacent public paved roads.*
Mitigation Measure AQ-8:	*Construction equipment powered by 150-horsepower diesel engines or greater (e.g., graders and scrapers) shall require minimum of Tier III diesel particulate filters.*
Mitigation Measure AQ-9:	*All diesel-powered construction equipment shall require control equipment that meets at a minimum Tier III emissions requirements. In the event Tier III equipment is not available, diesel powered construction equipment in use shall require emissions control equipment with a minimum of Tier II diesel standards.*
Mitigation Measure AQ-10:	*Contractors shall maintain equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications.*

Biological Resources

Mitigation Measure BIO-1:	*If project construction activities are undertaken between February 1 and August 31, a qualified biologist shall survey the project site no more than three days prior to commencement of disturbance and determine whether the proposed activities could disrupt the nesting of any listed migratory bird species under the MBTA. Disruption of nesting could be caused by the physical removal of an active nest, increased human activity near an active nest, loud noises, etc. If project construction cannot be initiated during this time period, site grubbing and grading during this time period can minimize the potential for bird nesting during the remainder of the construction period.* *If an active nest is discovered, the monitor shall observe the birds' behaviors when construction activities commence to determine whether construction activity should be ceased by Metropolitan or altered by Metropolitan in the nest vicinity in order to avoid nest failure. If any areas need to be avoided, the limits of avoidance may be demarcated with flagging or fencing. Nesting birds that are observed within impact areas shall be avoided until all nestlings have fledged and nesting activities have been concluded.*

Cultural Resources

Mitigation Measure CUL-1:	*A qualified archaeologist shall be retained to monitor during construction-related excavation activities within native alluvial materials. The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with Metropolitan and based on the grading plans. In the event that cultural resources are unearthed during ground-disturbing activities, all work must be halted in the vicinity of the discovery until the qualified archaeologist can assess the significance of the resources, and if necessary, have such resources recovered.*
Mitigation Measure CUL-2:	*Prior to construction, Metropolitan shall prepare or have a Cultural Resources Monitoring and Mitigation Plan (CRMMP) and/or Treatment Plan (TP) prepared, per State CEQA Guidelines Sections 15064.5 and 15126.4, to outline the appropriate action needed to recover the cultural materials in a professional manner. The CRMMP/TP shall establish the criteria utilized to evaluate the historic significance (per CEQA) of the unanticipated discoveries of unknown archaeological resources identified during construction activities, as well as identify the appropriate data recovery methods and procedures to mitigate the effect of the project upon those resources determined historically significant. If prehistoric or historic sites are encountered during construction-*

	related earth-moving activities, the CRMMP/TP shall address the recovery, analysis, laboratory procedures, and final Report of Findings requirements that are necessary to meet the CEQA, and all state, city, and local regulations.
Mitigation Measure CUL-3:	*Monitoring by a qualified paleontologist during ground disturbing activities. A qualified paleontologist shall be retained to monitor during construction-related excavation activities in native deposits. The duration and timing of monitoring shall be determined by the paleontologist in consultation with Metropolitan and based on the construction-related excavation activities.*
Mitigation Measure CUL-4:	*If paleontological resources such as fossil remains or fossiliferous sediment are encountered during the course of construction and monitoring, ground-disturbing activities shall be directed away from the vicinity of the find so that the paleontologist can evaluate the resources and recover them as appropriate. The paleontologist shall collect the material and record stratigraphic cross sections as well as map/graph pertinent geologic units. Fossils must be cleaned, analyzed and catalogued in order to be accessioned for curation at an appropriate repository. A final report shall be prepared that discusses any findings of paleontological resources.*
Mitigation Measure CUL-5:	*If human skeletal remains are encountered during the course of construction activities, Metropolitan shall immediately halt all construction activities and contact the Los Angeles County coroner in order to evaluate the skeletal remains, as well as comply with the regulatory requirements of Section 15064.5 (e)(1) of the State CEQA Guidelines. If it is determined the skeletal remains are Native American, Metropolitan shall consult with the NAHC, pursuant to the Health and Safety Code Section 7050.5 (c), and Public Resource Code 5097.98 (as amended by AB 2641). Public Resource Code 5097.8 provides that the landowner will ensure that the Native American remains, and the immediate vicinity, are protected from damage or further construction disturbances until consultation between Metropolitan and the Most Likely Descendant has transpired, resulting in a determination regarding the handling of the uncovered remains and any future unanticipated human remains discoveries in the immediate vicinity.*

Hazards and Hazardous Materials

Mitigation Measure HAZ-1:	*Metropolitan shall require the construction contractor(s) to implement best management practices (BMPs) for handling hazardous materials during construction of the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, workers, and the public, and will include the following:* • *Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction.* • *During routine maintenance of construction equipment, properly contain and remove used grease and oils.* • *Properly dispose of discarded containers of fuels and other chemicals.*

Mitigation Measure HAZ-2:	*Metropolitan shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following:* • *Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance.* • *Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage.* • *Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers.* *Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor(s) shall contact the local fire agency and the Los Angeles City Fire Department, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.*
Mitigation Measure HAZ-3:	*In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.*
Mitigation Measure HAZ-4:	*Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.*
Mitigation Measure HAZ-5:	*Metropolitan shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.*

Hydrology and Water Quality

Mitigation Measure HYDRO-1:	*Metropolitan shall require its construction contractor(s) to prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the California General Permit 2009-009-SWQ, that identifies specific actions and Best Management Practices (BMPs) to prevent stormwater pollution during construction activities.*
Mitigation Measure HYDRO-2:	*If groundwater dewatering is required for construction and the groundwater cannot be pumped to the WWRPs, Metropolitan's construction contractor(s) shall obtain the required NPDES discharge permit from the Los Angeles RWQCB - WDRs for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Board Order No. R4-2008-0032, General NPDES Permit No. CAG994004).*

Noise and Vibration

Mitigation Measure NOISE-1:	*All construction equipment shall be equipped with mufflers and noise attenuation devices.*
Mitigation Measure NOISE-2:	*The construction contractor shall locate noise-generating construction equipment and locate construction staging areas away from sensitive uses.*
Mitigation Measure NOISE-3:	*All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet, shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.*

Transportation and Traffic

Mitigation Measure TR-1:	*Prior to construction, Metropolitan shall require the contractor(s) to prepare a Traffic Management Plan in accordance with professional engineering standards and the guidelines for safety and traffic provided in the Caltrans Construction Manual (revised 2008). The Traffic Management Plan would include, but not be limited to, the following strategies:* • *Develop truck route plans to minimize impact to the significantly impact intersection of San Fernando Road/Sierra Highway during the p.m. peak hour, San Fernando Road/I-16-SR-14 southbound off-ramp during a.m. and p.m. peak hours, San Fernando Road/Balboa Boulevard during p.m. peak hours, and I-5 southbound ramps/Roxford Street during p.m. peak hours.* • *Avoid construction-related traffic to occur during peak travel periods.* • *Implementation of staggered construction worker shifts to minimize project traffic during the peak hours.*

2.2 Objectives of the Proposed Modifications

As described in the Final EIR, the Project has the following objectives:

- Provide permanent facilities at the Jensen Plant with sufficient capacity to accommodate dewatering of solids generated from the water treatment process under design plant flow conditions (750 mgd);
- Replace temporary off-site capacity at the LADWP lagoons that will be lost on the expiration of the Metropolitan-LADWP agreement in 2014; and
- Reduce the need to discharge water treatment solids to the sanitary sewer

At the time the Draft EIR was completed, November 2010, an extension of the existing Metropolitan-LADWP agreement was not a valid option as LADWP was unable to allow Metropolitan's continued use of lagoons on LADWP's property. However, since the time of the Draft EIR was circulated for public review, an agreement has been negotiated between Metropolitan-LADWP to extend the use of the LADWP's lagoons for an addition 50 years. As a result, Metropolitan proposed minor facility

modification would allow for the long-term use of the LADWP lagoons rather than constructing new lagoon with the ball fields on the Jensen property. With these modifications, the Project meets Metropolitan's solids handling needs to support reliable, long-term Jensen Plant operation. Furthermore, the implementation of the proposed project modification would reduce potential environmental impacts associated with the construction of the Project as proposed in original Final EIR.

2.3 Description of Project Modifications

The proposed modifications to the Project includes the relocation of the solids dewatering facility within the Jensen Plant, elimination of the proposed on-site lagoons at the Jensen Plant, refurbishment of existing lagoons at the LADWP LAAFP, and construction of a solids transfer system (Figure 2). The project modifications would eliminate the need to construct the five lagoons identified within the Final EIR. The project modifications are described below:

Relocation of Solids Dewatering Facility

Potential environmental impacts related to the solids dewatering facility were analyzed in the Final EIR. However, because the proposed modifications include relocation of the facility, further analysis is included in this Addendum. As a result of the project modifications, the solids dewatering facility would be relocated and constructed on the future Module No. 4 site within the Jensen Plant, north of the Finished Water Reservoir No. 1. This facility would include the belt press building, solids cake storage area, rainwater retention percolation basins, decant/filtrate pump station, truck loading area, thickened solids equalization tanks, and miscellaneous roads, parking areas, and utilities. The belt press building would house the following components:

- Four two-meter belt presses to dewater the thickened solids;
- Conveyor system to transfer dewatered solids cake from the belt press building to the solids cake storage area;
- Polymer storage and feed system to condition the thickened solids upstream of the belt presses for optimal dewatering;
- Electrical and control equipment to power and control electrical and mechanical equipment; and
- Operator work station to monitor and control the belt presses and associated equipment.

The belt press building would have a footprint of approximately 80 feet by 110 feet and a height of up to 30 feet. The exterior of the building would be constructed with a painted steel roof deck over steel beams with some brick work incorporated on the reinforced concrete walls to resemble other existing structures at the Jensen Plant. The roofing would include skylights and vents, and roof top equipment would be screened behind exterior parapet walls. Lighting would be limited, to the extent feasible, to wall-mounted lighting fixtures on exterior walls of the building. Next to the belt press building would be the solids cake storage area and rainwater retention/percolation basins. Once the solids go through the dewatering process, they would be placed on conveyer belts and placed in the solids cake storage area for additional drying and temporary storage prior to being hauled-off for disposal.

SOURCE: ESRI, 2011, ESA, 2012.

Jensen Solids Handling Facility Addendum No.1

Figure 2
Project Modifications

The estimated size of the solids cake storage area is 140 feet by 220 feet and would include a concrete floor. The truck loading area, an inclined screw conveyor, and two radial belt stackers would be located within the solids cake storage area. The rainwater retention/percolation basins would occupy approximately 12,000 square feet east of the solids cake storage area. The rainwater retention basin would be a concrete basin with an approximate footprint of 30 feet by 70 feet. The rainwater percolation basin would have an earthen floor and concrete berms. The decant/filtrate pump station would be located near the belt press building.

Two 12,000-gallon thickened solids equalization tanks would be constructed near the belt press building. The tanks would provide suction head for the belt press feed pumps and serve as an operational buffer between these pumps and the thickened solids pump stations next to the gravity thickeners so that the rate and quality of solids fed onto the belt presses are consistent.

Refurbishment of LADWP Lagoons

Metropolitan would refurbish four existing lagoons within LADWP property (Lagoon Nos. 2, 3, 7 and 8) to accommodate the increased need for solids drying. The refurbishment would include construction of a new earthen dike between Lagoons 2 and 3. The dike would be approximately 330-feet-long by 12-feet-high, 20-feet-wide at the top, and 116-feet-wide at the bottom. The dike slopes would be designed at a 2.5:1 ratio with rip-rap lining the banks. Each of the four lagoons would require isolation of its existing inlet system and widening and concreting of the existing truck ramps. Each of the four lagoons would include a refurbished decanting structure to collect clear water at the top of the lagoon and a new underdrain system at the bottom to capture the water percolating through the lagoon floor. The decanted and underdrained water would be pumped to LAAFP Backwash Water Reclamation Pumping Station (BWRPS), which would convey the lagoon decant, underdrain, and overflow waters to the head of the existing LAAFP system for treatment. Each lagoon would require a new decant pump station and supporting pipe system that would allow for the conveyance of water between each of the four lagoons to the BWRPS.

The solids in the lagoons would be allowed to settle as they enter the lagoons, while collection of clear water at the top of the lagoons and water percolating through the lagoon floor would continue. Once sufficient solids have been collected in a lagoon, the lagoon inlet valve would be closed to stop the inflow of solids. The clear water decanting and underdrain water collection would continue to reduce the depth of solids as water is removed until a few feet of solids are left at the lagoon floor, then the air drying process would start. The dewatered solids would be loaded onto trucks using a front-loader for off-site disposal.

Solids Transfer System

The existing solids transfer system was constructed in 1997 as a temporary system to convey thickened solids from the Jensen Plant to two LADWP lagoons for drying. The existing solids transfer system consists of two thickened solids pump stations and over 7,000 feet of thicken solids conveyance pipeline. After the residual solids have been thickened at one of the Jensen Plant's circular gravity solids thickeners, the thickened solids are pumped via one of the two pump stations either to the sanitary sewer at the air gap facility or to the existing LADWP lagoons 7 and 8. The Project modification includes constructing a transfer system parallel to the existing system. The transfer system would include a new 8,000 foot PVC transfer pipeline which would range in diameter from 6 inches to 10 inches. The pipeline

would convey solids from the Jensen Plant to the four refurbished LADWP lagoons (Lagoon Nos. 2, 3, 7 and 8). The new pipeline would require a 70- to 90-foot pipe to cross over the channelized portion of Bull Creek. The modification would also include four steel lagoon inlet piping structures for the lagoons (with four isolation valves), eight additional isolation valves, 32 cleanouts, eight air-vac valves, and nine air release valves, and one flow meter.

The existing temporary pipeline would remain as a backup to the proposed solids conveyance pipeline for maintenance or repair, if required, of the proposed solids transfer pipeline.

2.4 Construction Methods

The duration of project construction is estimated to be approximately ten months for each project component. The construction of the solids transfer system and lagoon refurbishment would occur concurrently in 2014. The construction of the solids handling facility may be constructed within the next ten years. Work hours would be in compliance with the local noise ordinances

The estimated amount of earth to be excavated is approximately 7,000 cubic yards for the lagoon refurbishment and approximately 3,800 cubic yards for solids transfer system. (This is significantly less excavation from the original Project proposal to construct five new lagoons on Metropolitan's property). The excavated material would be stockpiled within LADWP property, north of the existing lagoon area for the lagoon refurbishment project and various disturbed locations on the Jensen Plant and LAAFP sites for the solids transfer system. The construction of the dike would require approximately 8,800 cubic yards of imported fill. The excavated materials would be used as backfill for construction of other components.

Construction vehicles would access the Metropolitan and LADWP site via the service roads off of San Fernando Road. The construction workers would park their vehicles at temporary lay-down areas located within the project sites to be determined prior to the construction.

Tables 2-2 through **2-4** provide construction fleet details and duration of work for each of the three proposed modification components.

TABLE 2-2
ESTIMATED QUANTITIES OF CONSTRUCTION VEHICLES AND EQUIPMENT FOR SOLIDS DEWATERING FACILITIES

Equipment or Vehicle Type	No.	Days
Worker Vehicles (Commuting)	18	195
Materials Delivery Trucks	2	10
Earth Hauling Trucks	10	67
Water Truck	1	195
Loaders	2	65
Bull Dozers	2	105
Motor Grader	1	10
Excavators	7	33
Compactors	2	65
Fork Lift	1	30
Cranes	2	10
Driving Rig	1	11

Equipment or Vehicle Type	No.	Days
Drilling Rig	1	12
Tieback Rig	1	45
Backhoe	1	75

TABLE 2-3
ESTIMATED QUANTITIES OF CONSTRUCTION VEHICLES AND EQUIPMENT FOR LAGOON REFURBISHMENT

Equipment or Vehicle Type	No.	Days
LAGOONS 2 and 3 Excavate and Build Berm		
Water Truck	1	25
CAT D6 Dozer	1	16
CAT 621 Scraper	3	12
CAT 365L Excavator	1	16
CAT 980H Loader	1	15
CAT 140H Grader	1	16
Utility Truck	1	30
Haul Truck (loads/day)	80	8
Site Vehicles	2	30
Earthen Fill, Underdrain System, Aggregate		
Water Truck	1	22
CAT D6 Dozer	1	12
CAT 980H Loader	1	22
CAT 140H Grader	1	11
CAT 325 Excavator	1	10
Utility Truck	1	22
Haul Truck (loads/day)	80	25
Concrete Trucks	1	8
Site Vehicles	2	28
Electrical Ductbank		
Water Truck	1	8
CAT 420D Loader	1	9
CAT 325 Excavator	1	9
Utility Truck	1	9
Concrete Trucks	1	9
Site Vehicles	2	16
Excavate, Bed, Install, Backfill 1250 LF 24'' CML/C pipe		
Water Truck	1	13
CAT 420D Loader	1	11
CAT 325 Excavator	1	10
Utility Truck	1	13
Site Vehicles	3	18

Equipment or Vehicle Type	No.	Days
LAGOONS 7 and 8 Earthen Fill, Underdrain System, Aggregate		
Water Truck	1	31
CAT D6 Dozer	1	15
CAT 980H Loader	1	31
CAT 140H Grader	1	15
CAT 325 excavator	1	16
Utility truck	1	31
Haul truck (loads/day)	80	15
Site Vehicles	2	39
Electrical Ductbank, MCC		
Water truck	1	10
CAT 420D loader	1	9
CAT 325 excavator	1	9
Utility truck	1	8
Concrete trucks	1	8
Site Vehicles	2	13
Excavate, Bed, Install, Backfill 2050 LF 24'' CML/C pipe		
Water Truck	1	19
CAT 420D Loader	1	17
CAT 325 Excavator	1	16
Utility Truck	1	17
Site Vehicles	3	26
Potential Peak Equipment Usage		
CAT D6 Dozer	1	per day
CAT 621 Scraper	1	per day
CAT 365L Excavator	1	per day
Cat 980H Loader	1	per day
Cat 140H Grader	1	per day
Haul truck	80	per day

TABLE 2-4
ESTIMATED QUANTITIES OF CONSTRUCTION VEHICLES AND EQUIPMENT FOR SOLIDS TRANSFER SYSTEM

Equipment or Vehicle Type	No.	Days
Pump Station to Air Gap		
Backhoe 95 Hp	1	20
Trench Roller 10Hp	2	6
Pickup Trucks	2	30
Utility Truck	1	10
Dump Trucks	1	6
Water Truck	1	15

Equipment or Vehicle Type	No.	Days
Around Air Gap		
Backhoe 95 Hp	1	2
Trench Roller 10Hp	1	1
Pickup Trucks	2	5
Utility Truck	1	2
Air Gap to Lagoons		
Cat 211	1	9
Cat 936	1	2
Backhoe 95 Hp	1	67
Trench Roller 10Hp	2	20
Pickup Trucks	2	98
Utility Truck	1	41
Dump Trucks	1	24
Water Truck	1	49
New Bull Creek Pipe Crossing		
Cat 211	1	2
Cat 936	1	2
Crane 25 ton	1	1
Trench Roller 10Hp	2	2
Pickup Trucks	2	6
Utility Truck	1	2
Dump Trucks	1	1
Water Truck	1	1
Lagoon Inlet Piping with Support Structures for Lagoons 2, 3, 7 & 8		
Utility Truck	1	4
Pickup Trucks	2	4

3.0 ENVIRONMENTAL SETTING AND ANALYSIS

3.1 Air Quality

The Final EIR assessed potential impacts of the Project to air quality and concluded that construction of the Project would have a significant and unavoidable air quality impact. A Statement of Overriding Considerations will be adopted by Metropolitan on December 11, 2012. This section provides an analysis of the potential air quality impacts associated with the proposed modifications. The modifications would be subject to the same mitigation identified in the Final EIR, see Table 2.1 of this Addendum.

3.1.1 Setting

As described in the Final EIR, the Jensen Plant is located in the South Coast Air Basin (SCAB). Air quality in the SCAB is regulated by the South Coast Air Quality Management District (SCAQMD), which is responsible for administering standards and developing rules and regulations governing air

emissions in the SCAB. Policies and guidelines governing air quality in the state of California are developed and implemented by the California Air Resources Board (CARB). The Environmental Protections Agency (EPA) is the federal regulatory agency with authority to regulate air quality. The EPA can delegate authority to administer certain federal regulatory requirements to state and/or local agencies; for example, the EPA has delegated authority to the SCAQMD to regulate stationary emission sources. The SCAQMD has developed an Air Quality Management Plan (AQMP) that identifies strategies to achieve attainment of the federal and state ambient air quality standards through the implementation of emission control measures and long-term strategies designed to improve air quality throughout the region.

3.1.2 Significance Criteria

The following *State CEQA Guidelines* threshold was used to evaluate the air quality impacts associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation*

3.1.3 Potential Impacts

Construction

Construction of the proposed modifications would result in emissions associated with the concurrent construction of the solids transfer system and the lagoon refurbishment components. The solids handling facility may be constructed within next ten years after the completion of solids transfer system and lagoon refurbishment. The anticipated construction equipment fleets are identified in Section 2.4 Construction Methods, above.

Table 3.1-1 below shows the Total Estimated Daily Construction Emissions of the solids transfer system and lagoon refurbishment. The total emissions estimates in Table 3.1-1 assume that both project components would be constructed simultaneously, which is a very conservative assumption; actual daily emissions would likely be substantially lower (Appendix A). As shown below, the construction emissions for the proposed modifications would exceed the significance thresholds for NO_x. However, with the implementation of Mitigation Measures AQ-1 and AQ-10 from the Final EIR, construction impacts associated with NOx would be reduced to below SCAQMD significance threshold (**Table 3.1-2**). **Table 3.1-3** shows the Total Estimated Daily Construction Emissions for the site preparation of the solids handling facility. As shown below, the construction emissions for the site preparation would not exceed the significance thresholds established by SCAQMD. The construction of the belt press building was previously analyzed in the Final EIR and the construction methods of the belt press building would not change from what was analyzed in the Final EIR. Therefore, construction air emissions of the overall Project assessed in the Final EIR would not be substantially increased with addition of the proposed modifications. Rather the implementation of the proposed modification would significantly reduce the exposure to criteria pollutant emissions as compared to the construction of the Project. The Project would exceed the SCAQMD significance threshold during construction for NO_x, $PM_{2.5}$ and PM_{10} and the project modification would not exceed any of these established thresholds with the implementation of mitigation measures.

Operation

Operation of the proposed solids handling facility was analyzed in the Final EIR. The lagoons are currently in use and the modifications would not create a change in current operations that would result in new air emissions. Therefore, operations of the proposed modifications would not add an additional impact or increase the severity of an impact identified in the Final EIR. In fact, the proposed modifications reduce overall air emissions from those proposed in the original Project that included construction of five new lagoons on Metropolitan's property.

TABLE 3.1-1
ESTIMATED DAILY CONSTRUCTION EMISSIONS – LAGOONS REFURBISHMENT AND SOLIDS TRANSFER SYSTEM (WORST-CASE DAY)

	Criteria Pollutant Emissions (lbs/day)					
Project Construction Year	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
2014	19.87	158.42	85.57	0.20	20.96	10.51
SCAQMD Thresholds of Significance	75	100	550	150	150	55
Significant?	No	**Yes**	No	No	No	No

SOURCE: Modeling performed by ESA, 2012.

TABLE 3.1-2
ESTIMATED DAILY CONSTRUCTION EMISSIONS – LAGOONS REFURBISHMENT AND SOLIDS TRANSFER SYSTEM (WORST-CASE DAY)

	Criteria Pollutant Emissions (lbs/day)					
Project Construction Year	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
2014 (Unmitigated)	19.87	158.42	85.57	0.20	20.96	10.51
2014 (Mitigated)	14.81	97.50	104.36	0.19	15.79	7.58
SCAQMD Thresholds of Significance	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

SOURCE: Modeling performed by ESA, 2012.

TABLE 3.1-3
ESTIMATED DAILY CONSTRUCTION EMISSIONS – BELT PRESS BUILDING

Project Construction Year	Criteria Pollutant Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2023	8.52	50.70	60.97	0.14	33.75	8.84
SCAQMD Thresholds of Significance	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

SOURCE: Modeling performed by ESA, 2012.

3.1.4 Conclusion

The Final EIR assessed and concluded that construction of the Project would have significant and unavoidable impacts to air quality specifically NO_x, $PM_{2.5}$ and PM_{10}. However, as shown above, the construction emissions for the proposed modifications with the incorporation of mitigation measures would not exceed any significance thresholds established by the SCAQMD. As a result, the air quality impacts associated the proposed modifications would not substantially increase the severity of impacts beyond what was identified in the Final EIR. Rather the implementation of the proposed modification would significantly reduce the exposure to criteria pollutant emissions as compared to the Project. Therefore, impacts to air quality would be less than significant with the incorporation of the mitigation measures identified in the Final EIR.

Mitigation Measures

> **Mitigation Measures AQ-1** through **AQ-10** from the Jensen Solids Handling Facility Final EIR, also listed in Table 2.1 above, are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.2 Biological Resources

The Final EIR assessed potential impacts to biological resources and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. This section provides an analysis of the potential impacts to biological resources associated with the proposed modifications.

3.2.1 Setting

The relocated Solids Dewatering Facility would be constructed on an area reserved for Module No. 4 within the Jensen Plant. This area was analyzed in the Final EIR to be utilized as a construction stockpiling and staging area. Module No. 4 area has been previously disturbed by grading, contains little to no vegetation, and is currently used as a construction stockpiling and staging area for other

construction projects. Ornamental trees can be found along the southern and eastern perimeter of Module No. 4 area and would not be directly impacted by the proposed modifications.

The existing lagoons located within the LADWP facility would be refurbished for Metropolitan's use for supporting the Jensen plant operation instead of constructing lagoons at the ball field area within the Jensen Plant. The LADWP facility is located just east of the Jensen Plant ball fields and is separated from the Jensen Plant by a strip of vegetation and Bull Creek.

The solids transfer system would consist of installation of a new pipeline parallel to the existing transfer system pipeline and within a utility easement. The proposed pipeline would convey solids to the Refurbished LADWP Lagoons. Within the Jensen Plant, the pipeline would run through existing roads. As the pipeline crosses onto LADWP property the pipeline would follow the existing maintenance road for approximately 600 linear feet. From this point the pipeline would cross over the hillside to the LADWP lagoon locations. Approximately 25 linear feet of vegetation would be impacted during construction. The pipeline would cross a concrete-lined portion of Bull Creek via a pipe adjacent to the existing pipeline crossing.

3.2.2 Significance Criteria

The following *State CEQA Guidelines* thresholds were used to evaluate the impacts to biological resources associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *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 (CDFG) or U.S. Fish and Wildlife Services (USFWS); or*
- *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 CDFG or USFWS.*

3.2.3 Potential Impacts

Special-Status Species

Construction and operation of the solids handling facility would occur on a disturbed area (area reserved for Module No. 4), currently used as a construction stockpiling and staging area for other construction projects. Module No. 4 area was previously analyzed in the Final EIR to be used as a staging area and it was determined that this area provides no habitat for wildlife. The lagoons would no longer be constructed within the ball fields, instead the existing LADWP lagoons would be refurbished and no new habitat would be disturbed.

The solids transfer system would be constructed mainly within existing maintenance roads. Construction activities would impacts approximately 25 linear feet of vegetation as the pipeline transitions from the maintenance road to the LADWP lagoons. However, once construction is completed Metropolitan would restore the disturbed area to pre-construction conditions.

Construction activities, including the presence of humans, construction vehicles, and the noise levels associated with construction could result in temporary avoidance of the project area by some birds and ground-dwelling wildlife. Construction noise has a potential to disrupt foraging, roosting, nesting, and denning activities for wildlife in the project vicinity. Startle effects and vibration due to some construction activities can also disturb wildlife in the vicinity of construction.

A search was conducted of the California Department of Fish and Game's California Natural Diversity Database (CNDDB) for the San Fernando Quadrangle. The report yielded four natural communities, Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, and Southern Sycamore Alder Riparian Woodland, none of which occur within the proposed modification areas. Four formally-listed (candidate, threatened, or endangered) plant species were listed for the San Fernando Quadrangle. The Jensen Plant and the LADWP lagoons provide no soils or vegetation that would be impacted as a result of the project. The pipeline would run through a previously disturbed utility corridor, crossing approximately 25 linear feet of Coastal sage scrub. However, due to the disturbed nature of the area, the proposed modification would not cause any adverse effects to formally-listed plant species. In addition, once construction is completed Metropolitan would restore the disturbed area to pre-construction conditions. In addition, focused plant surveys conducted in 2009 for LADWP's future Bull Creek expansion project, which covered the proposed solids transfer system impact area within LADWP's property, determined that no special status species were detected (Appendix B).

The search also yielded five formally-listed (candidate, threatened, or endangered) wildlife species, two of which have the potential to occur within or adjacent to the proposed modification impact areas; least Bell's vireo and coastal California gnatcatcher. However, surveys conducted in 2009 for LADWP's future Bull Creek expansion project, which covered the proposed impact areas for the lagoons refurbishment and the solids transfer system, concluded that both species were not present. Coastal California gnatcatcher protocol presence/absence surveys were conducted in 2009 and determined the species was presumed to be absent. No protocol surveys for the least Bell's vireo were conducted, but the species was not observed during any of the biological surveys conducted in 2009 for the LADWP project. As a result, it is not anticipated that the construction activities would impact candidate, threatened, or endangered wildlife species.

The MBTA and the California Fish and Game Code consider the direct loss of active nests (nests with eggs or young) of all native bird species as unlawful. Consequently, the direct loss of nests of common bird species as a result of construction-related activities is considered a potentially significant impact and would conflict with state and federal laws. However, implementation of Final EIR Mitigation Measure BIO-1 would ensure that potential direct impacts to nesting migratory birds are avoided.

Riparian Habitat or Sensitive Natural Community

The solids dewatering facility site consists of a disturbed stockpiling and staging area within the Jensen Plant and does not contain any riparian habitat or other sensitive natural communities. The existing lagoons within the LADWP facility contain vegetation surrounding the perimeter. However, this vegetation is subject to periodic maintenance of the lagoons and periods of no water, as part of regular operation activities. In addition, the solids transfer system would be constructed within an existing maintenance road and would cross a concrete-lined portion of Bull Creek. The project modifications

would not traverse through riparian or any other sensitive natural communities. Therefore, the proposed project would not have a substantial direct effect on riparian habitat or other sensitive natural communities identified in local or regional plans, or by the CDFG or the USFWS.

Construction activities would be heard from Bull Creek and the vegetated area between the Jensen Plant and the LADWP facility, but is not expected to significantly limit usage of the creek or vegetated area by wildlife. Surrounding areas are characterized by noise-generating industrial activities primarily vehicular traffic on local streets and I-5 and the ongoing operational noise from the Jensen Plant and LADWP facilities. Furthermore, species in the vicinity are generally well-adapted to human-related disturbances. Impacts due to noise and vibration would not be considered significant and would be limited to the duration of construction. Noise associated with operation of the proposed project modifications would not increase beyond what was described within the Final EIR and currently occurs onsite; thus, wildlife in the project vicinity is not expected to incur significant indirect impacts.

3.2.4 Conclusion

The Final EIR assessed potential impacts of construction and operations to biological resources and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. Implementation of Mitigation Measures BIO-1 from the Final EIR would reduce potential impacts to biological resources due to the proposed modifications to a less than significant level. Implementation of the proposed modifications would not result in a new significant impact or result in a substantial increase in the severity of previously identified biological impacts as identified in the Final EIR. Therefore, impacts would remain less than significant with mitigation.

Mitigation Measures

> **Mitigation Measures BIO-1** from the Jensen Solids Handling Facility Final EIR (see Table 2.1), are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.3 Cultural Resources

The Final EIR assessed potential impacts to cultural resources and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. This section provides an analysis of the potential impacts to cultural resources associated with the proposed modifications.

3.3.1 Setting

The relocated solids dewatering facility would be constructed on an area reserved for Module No. 4 within the Jensen Plant. This area was previously analyzed in the Final EIR to be utilized as a construction stockpiling and staging area. Module No. 4 area has been previously disturbed by grading and is currently used as a construction stockpiling and staging area for other construction projects.

The existing lagoons located within the LADWP facility would be refurbished for Metropolitan's use for supporting the Jensen Plant operation instead of constructing lagoons at the ball field area within the Jensen Plant. The existing LADWP lagoons are currently in use by both LADWP and Metropolitan.

The solids transfer system would consist of installation of a new pipeline parallel to the existing transfer system pipeline within a utility easement. The proposed pipeline would convey solids to the Refurbished LADWP Lagoons. Within the Jensen Plant, the pipeline would run through existing roads. As the pipeline crosses onto LADWP property the pipeline would follow an existing maintenance road for approximately 600 linear feet. From this point the pipeline would cross over the hillside to the LADWP lagoon locations. The pipeline would transverse approximately 25 linear feet through vegetation. The new pipeline would be located adjacent to the existing solids transfer pipeline within a utility easement.

3.3.2 Significance Criteria

The following *State CEQA Guidelines* thresholds were used to evaluate the impacts to cultural resources associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;*
- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section15064.5;*
- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or*
- *Disturb any human remains, including those interred outside of formal cemeteries.*

3.3.3 Potential Impacts

Historic and Archaeological Resources

A Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project was prepared for LADWP in April 2012 by AECOM. This report, together with archival research and literature reviews prepared for the Final EIR revealed that archaeological sites and historic structures were located within a two-mile radius of the project property and the construction of the proposed project modification could result in a significant impact to historical and/or archeological impacts.

The Jensen Plant is an active industrial facility that has had ongoing upgrades throughout its history. The relocation of the solids dewatering facility would be constructed on an area reserved for Module No. 4 within the Jensen Plant. This area is highly disturbed by ongoing activities at the Plant and is currently used as a construction stockpiling and staging area for other construction projects. The construction would require excavation to prepare the site for the belt press building and has the possibility of unearthing unknown resources; however, the construction activities associated with the building of the original Plant would have destroyed any potential archeological or historical resources at this location.

Therefore, the relocation of the solids dewatering facility would not impact archeological or historical resources.

The proposed LADWP property has been highly disturbed by past and current operations and maintenance activities associated with the lagoons and surrounding areas. The LADWP lagoons were originally constructed on fill material. During the original construction of the lagoons, surficial alluvial soils were excavated and removed to depths roughly corresponding to groundwater and replaced by imported fill material. The removal of the original surficial alluvial deposits greatly diminishes the potential to encounter archaeological or historical resources during construction. Furthermore, construction activities would refurbish existing lagoons and would not constitute new land disturbances at the lagoon locations, which lessens the potential to uncover cultural resources at the project site. Nevertheless, based on the presence of numerous archaeological sites in close proximity to the project area, and the location of the Jensen Plant and LADWP lagoons along the banks of Bull Creek, the project site should be considered to be of high archaeological sensitivity. Disturbance, damage or destruction of known or unknown cultural resources would be a significant impact. However, the Los Angeles Department of City Planning Permanent (Q) Qualified Conditions of Case No. 90-0596 requires a qualified archaeological monitor to oversee all ground disturbing activity within the LADWP Van Norman Complex area. Metropolitan's voluntary compliance with Conditions of Case No. 90-0596 should reduce any potential impact associated with the excavation of the lagoons.

The solids transfer system would require the excavation of approximately 8,000 linear feet. However, the new pipeline would be located adjacent to the existing solids transfer pipeline within a utility easement. The pipeline alignment has been previously disturbed due to the original construction activities associated with the existing transfer system pipeline. Nevertheless, the excavation activities have the potential to unearth unknown resources. Disturbance, damaging or destruction of known or unknown cultural resources would result in a significant impact. However, implementation of Mitigation Measures CUL-1 and CUL-2 from the Final EIR and compliance with Conditions of Case No. 90-0596 would reduce the potential impact to less than significant.

Paleontological Resources

Paleontological resources were not identified during the field surveys conducted as part of the Final EIR or as part of the Phase I for the LADWP property. However, archival research and literature reviews revealed that paleontological remains are located within a one mile radius of the project area and therefore may be potentially impacted by construction activity. As a result, construction related ground-disturbing activities within the older Quaternary Alluvial deposits and the rock unit of the Saugus Formation may encounter significant fossil vertebrate remains. With the implementation of Mitigation Measures CUL-3 and CUL-4 from the Final EIR, any impacts to paleontological resources from construction of the proposed modification would be reduced to a less than significant level.

Human Remains

There is no indication that any particular location within the proposed modification area has been used for human burial purposes in the recent or distant past. However, the high level of prehistoric activity in the area, evidenced by the large number of prehistoric sites within a one mile radius of the Jensen Plant and the close proximity of Bull Creek, suggests that burials and/or habitation sites could be present. In the

event that human remains were discovered during subsurface activities, the human remains could be inadvertently damaged, which could be a significant impact. However, this impact would be minimized by implementation of Mitigation Measure CUL-5 from the Final EIR. Therefore, impacts would be considered less than significant.

3.3.4 Conclusion

The Final EIR concluded that construction of the Project would have a less than significant impact to cultural resources with implementation of mitigation measures. Construction activity related to the project modifications could inadvertently disturb, damage, or destroy previously unknown buried archaeological or paleontological resources during excavation activities within the native alluvial deposits. However, the proposed modifications would not result in a new significant impact or result in substantial increase in the severity of previously identified impacts as analyzed in the Final EIR. Therefore, impacts would be less than significant with the incorporation of the mitigation measures identified in the Final EIR and with compliance of Conditions of Case No. 90-0596.

Mitigation Measures

> **Mitigation Measures CUL-1** through **CUL-5** from the Jensen Solids Handling Facility Final EIR (see Table 2.1) are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.4 Hazards and Hazardous Materials

The Final EIR assessed potential impacts of hazards and hazardous materials and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. This section provides an analysis of the potential hazards and hazardous material impacts associated with the proposed modifications.

3.4.1 Setting

Chemical usage, storage and transport of hazardous materials within the Jensen Plant are described within the Final EIR and remain unchanged for the proposed modifications.

3.4.2 Significance Criteria

The following *State CEQA Guidelines* threshold was used to evaluate hazards and hazardous materials impacts associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *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*

3.4.3 Potential Impacts

Accidental Upset

Construction of the proposed modifications would require equipment utilizing hazardous materials such as gasoline, diesel fuel, hydraulic fluids, paint, and oil. During construction and transportation activities, such hazardous materials could accidently be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions.

Operation of the proposed modifications would not require additional amounts of the existing hazardous materials in use at the Jensen Plant or at the LADWP facility. Therefore, potential impacts would be limited to the construction phase of the project. Implementation of the Final EIR Mitigation Measures HAZ-1 through HAZ-5 would reduce risks due to accidental upset of hazardous materials by requiring BMPs during construction of the proposed modifications.

Hazardous Materials Database

Government Code Section 65962.5 requires the California EPA (Cal EPA) to develop and annually update the Cortese List. The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The information contained in the Cortese List is provided by Cal EPA's Department of Toxic Substances Control (DTSC) and other state and local government agencies.

The proposed modification would not be located on a known hazardous materials site identified in the LUST, Cortese, or EnviroStor databases. The LADWP Symlar Converter Station at 13201 Sepulveda Boulevard in Sylmar, California is located within 0.5 miles of the proposed Refurbishment of LADWP Lagoons site and has been identified on Envirostor as a Voluntary Cleanup Site with DTSC as the oversight agency. The potential media affected is described as sediments and soil with potential contaminants of concern including halogenated organic compounds, contaminated soil, waste oil and mixed oil, and polychlorinated byphenyls. The 1994 earthquake caused a transformer release that entered an on-site streambed, only one acre of impact is reported under the listing. Due to the localized nature of the spill and compliance with the current DTSC Voluntary Cleanup Agreement at the nearby Sylmar Converter Station, impacts associated with construction and operation of the proposed modifications are considered less than significant.

3.4.4 Conclusion

The Final EIR assessed potential impacts associated with hazardous materials and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures and BMPs. Implementation of the proposed modifications would not result in a new significant impact or result in a substantial increase in the severity of previously identified impacts as analyzed in the Final EIR. Therefore, impacts would remain less than significant with implementation of mitigation measures.

Mitigation Measures

> **Mitigation Measures HAZ-1** through **HAZ-5** from the Jensen Solids Handling Facility Final EIR (see Table 2.1), are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.5 Hydrology and Water Quality

The Final EIR assessed potential impacts of hydrology and water quality and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. This section provides an analysis of the potential hydrology and water quality impacts associated with the proposed modifications.

3.5.1 Setting

The relocated Solids Dewatering Facility would be constructed on an area reserved for Module No. 4 within the Jensen Plant. This area was previously analyzed as part of the Final EIR to be utilized as a construction stockpiling and staging area and is currently used as a construction stockpiling and staging area for other construction project. The existing surface flows from Module No. 4 area are captured by the existing storm drain system within the Jensen Plant.

The existing lagoons located within the LADWP facility would be refurbished for Metropolitan's use to support the Jensen Plant operation instead of constructing lagoons at the ball field area within the Jensen Plant. The existing LADWP lagoons are currently in use by both LADWP and Metropolitan. The lagoons are surrounded by dirt maintenance roads and graded areas void of vegetation.

The solids transfer system would convey solids to the Refurbished LADWP Lagoons. Within the Jensen Plant, the transfer system pipeline would run through existing roads, as it passes the ball fields, the pipeline would cross onto LADWP property and would follow the existing maintenance road for approximately 600 linear feet. From this point the pipeline would cross over the hillside to the LADWP lagoon locations. The pipeline would transverse approximately 25 linear feet through vegetation. The new pipeline would be located adjacent to the existing solids transfer pipeline within a utility easement.

3.5.2 Significance Criteria

The following *State CEQA Guidelines* thresholds were used to evaluate hydrology and water quality impacts associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *Violate any water quality standards or waste discharge requirements;*
- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*
- *Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation;*
- *Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river substantially increasing the rate or amount of surface runoff in a manner that would result in flooding;*

- *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*
- *Otherwise substantially degrade water quality.*

3.5.3 Potential Impacts

Water Quality

Construction

Construction of the proposed project modification would involve earthmoving activities such as excavation, grading, and soil stockpiling. Construction activities could result in soil erosion and the potential subsequent discharge of sediment to down-gradient surface waters or drainages (i.e., Bull Creek and the Los Angeles River). Sedimentation of down-gradient waterways could degrade water quality and affect the associated beneficial uses. Construction activities would also involve the use and handling of chemicals such as, but not limited to, oil, fuels, and lubricants. In the event of accidental release of such chemicals, such as spills during fueling of equipment or vehicles, the chemicals could come into contact with storm water runoff and flow into the nearby water bodies, thus affecting surface water quality and/or absorbing into the soil and affect groundwater quality.

Prior to the start of project construction, Metropolitan would be required to obtain coverage under the National Pollution Discharge Elimination System (NPDES) General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP) since the construction areas would be greater than one acre in size. Metropolitan would be required to prepare and submit a Notice of Intent to comply with the General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release, and would be required to be retained on-site and implemented prior to initiation of any ground disturbance. Implementation of the BMPs described in Mitigation Measure HYDRO-1 from the Final EIR, would ensure construction storm water runoff would not violate any water quality standards or waste discharge requirements.

Project construction would require dewatering of groundwater during the excavation phase for the relocation of the Solids Dewatering Facility and Refurbishment of the LADWP Lagoons. Groundwater would be pumped from the excavation operation and then discharged either to Bull Creek, the Jensen Plant's WWRPs or the LAAFP. Compliance with the Los Angeles Regional Water Quality Control Board (RWQCB) Low-Threat General Waste Discharge Requirements (WDR) for construction dewatering would ensure that impacts to water quality from construction dewatering discharges are less than significant. However, improperly discharged water could result in turbid water in the creek that could affect water quality. As a result, implementation of Mitigation Measure HYDRO-2 from the Final EIR, would ensure that dewatering activities would not result in excessive turbidity or scouring in the creek that would adversely impact designated beneficial uses of down-gradient surface waters.

Operation

The Jensen Plant is currently in compliance with the NPDES MS4 Permit No. CAS004001 for Los Angeles County which allows for the storm water runoff from the existing Jensen Plant to be conveyed off-site through a collection system that discharges to Bull Creek. In addition, the proposed solids handling facility would include the construction of an 80 foot by 110 foot belt press building with a

rainwater retention/percolation basins that would capture all of the runoff from the proposed modification footprint. The lagoon refurbishment would not change the dimensions of the existing lagoons and would not increase the amount of impervious surfaces in the area. Post-construction, the proposed solids transfer system would be entirely underground except for the proposed Bull Creek pipe crossing and lagoon inlet piping structures. As a result, the project would not change the surface runoff or impact the rate that runoff infiltrate the surrounding ground as compared to the existing conditions at all proposed modification components.

Groundwater Recharge

Implementation of the proposed modification would not involve or result in any withdrawals of groundwater other than construction dewatering for the belt press building site and lagoon refurbishment. Implementation of the modification would result in construction of the proposed solids dewatering facility on an area reserved for Module No. 4. The solids dewatering facility would include rainwater retention/percolation basins that would detain storm water runoff from the impervious surfaces surrounding the belt press building. The detained water would ultimately percolate into the groundwater basin.

The groundwater in the area is primarily recharged by groundwater flow from the upper watershed and from local creeks. The proposed modification would not decrease the amount of groundwater currently being recharged. As a result, the proposed modification would not lower the groundwater table. Impacts would be considered less than significant.

Drainage: Erosion and Siltation

Construction

Construction of the proposed project modification would involve earthmoving activities such as excavation, grading, and soil stockpiling. Construction activities could result in soil erosion and the subsequent discharge of sediment to down gradient surface waters or drainages (i.e., Bull Creek and the Los Angeles River).

Prior to the start of project construction, Metropolitan would be required to obtain coverage under the NPDES General Construction Permit and prepare a SWPPP. The SWPPP would include an Erosion Control Plan and BMPs to control erosion and siltation. In addition, all disturbed open space and vacant lands as a result of the pipeline installation would be restored to preconstruction condition original conditions to minimize erosion once the construction is implemented. As a result, the implementation of the BMPs described in Mitigation Measure HYDRO-1 of the Final EIR, would minimize erosion and siltation to less than significant levels.

Operation

Once constructed, the project modifications would not result in long-term impacts due to erosion or siltation. The project site would be occupied by the proposed solids dewatering facility and lagoons, and the transfer system would be mostly underground. The SWPPP for the project modification would be required to include BMPs to control erosion and siltation once construction is complete and once the project is operational. Implementation of the BMPs would ensure erosion or siltation from the proposed project site is reduced to less than significant levels.

Drainage: Runoff and Flooding

The proposed solids dewatering facility would include rainwater retention/percolation basins that would capture the runoff from the solids cake storage area before it leaves the site during a storm event. The basin would be sized to catch the majority of the solids during the first flush of the rainfall event (3-hour two-year storm event) and would capture the consistent trickle flow coming from the cake piles drying on the concrete pad. The solids would settle within the retention basin and the decant water would be conveyed to the percolation basin. After transferring the water from the retention basin to the percolation basin, stormwater would percolate into the ground.

The proposed lagoon refurbishment would not increase the footprint of the existing LADWP lagoons. The refurbishment would include construction of an earthen dike within Lagoons 2 and 3, new underdrain systems, new lagoon decant/underdrain transfer system; improvement of lagoon access ramps; refurbishment of the existing decanting structures; removal of temporary lagoon decant structures; isolation of existing lagoon inlet structures; installation of a motor control center and lagoon control panels; and modification of the Backwash Water Reclamation Pumping Station. The modification would not change the existing drainages pattern of the surrounding area. In addition, the project would not significantly increase impervious surfaces. The refurbishment would require minimal widening and paving of the existing earthen truck ramps. However, this modification would not change the drainage patterns of the area.

The proposed construction of the solids transfer system would not substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, nor would it substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Earth-moving activities would occur during pipeline installation (open-cut methods) that would temporarily alter the topography of the project site. However, once construction is completed the site would be returned to pre-construction condition. As a result, the construction activity would not substantially alter the drainage patterns of the area. Therefore, impacts to surface runoff and flooding would be less than significant.

3.5.4 Conclusion

The Final EIR assessed potential impacts associated with hydrology and water quality and concluded that construction and operation of the Project would have a less than significant impact with implementation of mitigation measures and BMPs. Implementation of the proposed modifications would not result in a new significant impact or result in substantial increase in the severity of previously identified impacts as identified in the Final EIR. Therefore, impacts would remain less than significant with implementation of mitigation measures.

Mitigation Measures

> **Mitigation Measures HYDRO-1** and **HYDRO-2** from the Jensen Solids Handling Facility Final EIR (see Table 2.1), are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.6 Noise and Vibration

The Final EIR assessed potential impacts of construction noise and vibration and concluded that construction of the Project would have a significant and unavoidable impact. A Statement of Overriding Considerations will be adopted by Metropolitan on December 11, 2012. This section provides an analysis of the potential noise and vibration impacts associated with the proposed modifications.

3.6.1 Setting

Construction-related noise levels associated with the proposed modifications would be similar to the construction activities analyzed in the Final EIR. Similar construction equipment would be operating on-site during construction of the project modification.

The existing noise environment of the Project area is typical to a suburban area (e.g., residential traffic, gardening equipment, etc.). Vehicular traffic is the primary source of noise in the Project vicinity.

Sound measurements were taken as part of the Final EIR. The sound measurements were taken using a SoundPro DL Sound Level Meter between 11:00 a.m. and 1:00 p.m. on March 2, 2010 to determine existing ambient daytime noise levels in the Project vicinity. The existing ambient sound levels range between 54.8 and 60.1 dBA L_{eq}.

3.6.2 Significance Criteria

Construction Noise

The following *City of Los Angeles L.A. CEQA Threshold Guide* thresholds were used to evaluate noise and vibration impacts associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *Construction activities lasting more than one day would exceed existing ambient noise levels by 10 dBA or more at a noise sensitive use;*
- *Construction activities lasting more than ten days in a three-month period would exceed existing ambient noise levels by 5 dBA or more at a noise sensitive use; or*
- *Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or anytime on Sunday.*

Operation Noise

A significant operational noise impact would result if the proposed project causes the ambient noise level measured at the property line of the affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories, or any 5-dBA or more increase in noise level.

3.6.3 Potential Impacts

Noise Standards

Construction

Construction activity noise levels at and near the construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. The construction of the solids transfer system would result in temporary increases in ambient noise levels at the Jensen Plant on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, and distance between the noise source and receptor.

Construction activities typically require the use of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in **Table 3.6-1**. The table shows noise levels at a distance of 50 feet from the construction noise source.

TABLE 3.6-1
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level[a] (dBA, Leq at 50 Feet)
Dump truck	88
Portable air compressor	81
Concrete mixer (truck)	85
Scraper	88
Jackhammer	88
Dozer	87
Paver	89
Generator	76
Backhoe	85

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, December 1971, page 26, Table I-A; Cunniff, P.F., *Environmental Noise Pollution*, 1977, page 131.

The noise levels shown in **Table 3.6-2** take into account the likelihood that more than one piece of construction equipment would be in operation at the same time and lists the typical overall noise levels that would be expected for construction. The highest noise levels are expected to occur during the grading/excavation and finishing phases of construction.

The greatest construction noise levels are associated with excavation and would be 89 dBA at a distance of 50 feet. Accordingly, the adjacent residences would experience noise levels of up to 73.2 dBA L_{eq} during excavation for the solids transfer pipeline. The ambient noise level at this location is 60.1 dBA L_{eq}. The pipeline would be installed at a rate of approximately 100 feet of pipe per day. As a result, sensitive receptors exposed to the pipeline construction noise would be impacted for a short duration of time. Nevertheless, the construction activities would increase the noise level by 13.2 dBA L_{eq} at the residence located west of the Jensen Plant. General construction noise levels would exceed the 5-dBA significance threshold at the residential land uses. As a result, construction activity would result in a significant noise

impact. Implementation of Mitigation Measures NOISE-1 through NOISE-3 from the Final EIR would be required.

TABLE 3.6-2
TYPICAL NOISE LEVELS FROM CONSTRUCTION ACTIVITIES

Construction Phase	Noise Level[a] (dBA, Leq)
Ground clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, December 1971, page 26, Table I-A; Cunniff, P.F., *Environmental Noise Pollution*, 1977, page 131.

Operational Noise

The only component of the proposed project modification that would produce new noise would be the solids handling facility. The lagoons are for drying solids, which would not generate noise. The current noise generated at the LADWP for maintenance and general operation would not change as a result of the project modification. Depending on the quality of water being treated (amount of turbidity) and/or season, the thickened solids would be dewatered by the belt presses and then stored at the dewatered solids cake storage area. The belt presses would be housed within a concrete or masonry structure, and would not be audible at nearby sensitive receptors. As a result, the operation of the proposed modification would result in less than significant noise impacts.

3.6.4 Conclusion

The Final EIR assessed potential impacts of construction and operational noise and concluded that construction of the Project would have a significant and unavoidable impact. The modifications would not result in any new significant impact or result in a substantial increase in the severity of previously identified noise impacts as identified in the Final EIR.

Mitigation Measures

> **Mitigation Measures NOISE-1** through **NOISE-3** from the Jensen Solids Handling Facility Final EIR (see Table 2.1), are applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

3.7 Transportation and Traffic

The Final EIR assessed potential impacts to transportation and traffic and concluded that construction of the Project would have a less than significant impact with implementation of mitigation measures. This section provides an analysis of the potential transportation and traffic impacts associated with the proposed modifications.

3.7.1 Setting

The proposed project modifications include the same facilities as previously described within the Final EIR, with the addition of the pipeline connecting the Jensen Plant to the LADWP facility. Construction related traffic required for the proposed modification would primarily use the same roads previously analyzed in the Final EIR, these include San Fernando Road, Balboa Boulevard and Sepulveda Boulevard.

3.7.2 Significance Criteria

The following *State CEQA Guidelines* threshold was used to evaluate impacts to transportation and traffic associated with construction of the proposed modifications. The proposed modifications would result in a significant impact if they would:

- *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

3.7.3 Potential Impacts

Effects to the Circulation System

Construction

Construction of the proposed project modifications would contribute to traffic on regional and local roadways due to construction worker vehicle trips and truck trips for material hauling as described in the Final EIR. Construction-related traffic would not result in any permanent degradation in operating conditions or level of service (LOS) on any local roadways. The primary effects from the construction-related traffic, primarily material hauling trucks, would include the lessening of roadway capacities due to slower movements and larger turning radii of trucks compared to passenger vehicles.

Implementation of Mitigation Measure TR-1 of the Final EIR would ensure that a Traffic Management Plan is developed. Impacts to local roadways would be consistent with those described in the Final EIR and would be considered less than significant.

Operations

The primary traffic activities of operating the new facilities would be associated with the vendor delivery of chemicals/materials and the hauling away of solids cake. No increases in staff or visitors to the site would occur. All traffic and transportation impacts associated with the proposed modifications have been fully analyzed in the Final EIR. Impacts would be considered less than significant.

3.7.4 Conclusion

The proposed modifications would not result in any new significant impact or result in substantial increase beyond what has already been concluded within the Final EIR. Therefore, impacts to transportation and traffic would remain less than significant with implementation of mitigation measures.

Mitigation Measures

> **Mitigation Measure TR-1** from the Jensen Solids Handling Facility Final EIR (see Table 2.1), is applicable to the proposed modifications analyzed in this Addendum.

Significance after Mitigation: Less than significant.

4.0 REFERENCES

Biological Reconnaissance Survey Report Los Angeles Reservoir Water Quality Improvement Project AECOM, March 13, 2012

California Department of Toxic Substances Control (DTSC), Cortese List, accessed October 11,2012, (available online at http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm)

California Department of Toxic Substances Control (DTSC), Envirostor-Hazardous Waste and Substance Site List, accessed October 11, 2012, (available online at http://www.envirostor .dtsc.ca.gov/public)

Final Jensen Solids Handling Facility Project Environmental Impact Report. The Metropolitan Water District of Southern California. Metropolitan Report No. 1359. December 2012.

Jensen Solids Handling Facility Project Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program. The Metropolitan Water District of Southern California. Metropolitan Report No. 1359. December 2012

Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project City of Los Angeles. AECOM, April 2012

Southern California Air Quality Management District, CEQA Air Quality Handbook, 1993

Southern California Air Quality Management District (SCAQMD), *Final 1997 Air Quality Management Plan*, November 1996, revised June 2007

5.0 CONCLUSION

Section 15164(a) of the *Guidelines* states the following:

> "The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a Subsequent EIR have occurred."

The proposed modifications to the original Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Furthermore, new information associated with the proposed modifications does not indicate that the Project will have one or more significant effects not discussed in the certified EIR; that significant effects previously examined will be substantially more severe than shown in the certified EIR; that mitigation measures or alternatives previously found not to be feasible would in fact be feasible; or that mitigation measures or alternatives which are considerably different from those analyzed in the certified EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative. Accordingly, an addendum was prepared as opposed to a negative declaration or a subsequent environmental impact report. As the Lead Agency for the proposed project modification, Metropolitan is issuing this Addendum in accordance with the *State CEQA Guidelines* (Section 15164).

The Metropolitan Water District of Southern California

Signature

11/16/12
Date

Deirdre West
Printed Name

Manager, Environmental Planning
Title

Appendix A: Air Quality Emissions

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/11/2012

Jensen Addendum Construction Emissions - Lagoons

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	12		2.2		
		Precipitation Freq (Days)			
			33		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximately 12-acres for Lagoons

Construction Phase - Lagoon Construction Schedule

Off-road Equipment - Construction equipment for Lagoon 2 & 3 Excavate & Build Berm phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3 Earthen fill, underdrain system, and aggregate phase. Includes overlap of construction activities.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Excavate, bed, install, and backfill phase. Includes partial overlap with excavate and build berm phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Construct ramps phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Electrical ductbank phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Earthen fill, underdrain system, and aggregate phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Excavate, bed, install, and backfill phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, construct sump phase (includes overlap with other activities).

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Electrical ductbank phase (includes overlap with construction of sumps).

Grading - Approximately 12 acres for lagoons.

Trips and VMT - Approximate worker and haul truck and utility truck trips.

Construction Off-road Equipment Mitigation -

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					
2014	13.64	111.42	57.51	0.13	8.98	4.80	13.77	3.34	4.80	8.13	0.00	13,913.69	0.00	1.21	0.00	13,939.16
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	13.64	111.42	57.51	0.13	4.85	4.80	9.64	1.32	4.80	6.12	0.00	13,913.69	0.00	1.21	0.00	13,939.16
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Lagoon 2 & 3 - Excavate & build berm - 2014

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					6.77	0.00	6.77	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.77**	**4.69**	**11.46**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.24	2.33	1.35	0.00	1.90	0.10	2.00	0.01	0.10	0.12		401.94		0.01		402.19
Vendor	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

Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.36**	**2.45**	**2.79**	**0.00**	**2.21**	**0.11**	**2.32**	**0.02**	**0.11**	**0.14**		**654.76**		**0.02**		**655.31**

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					2.64	0.00	2.64	1.29	0.00	1.29						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**2.64**	**4.69**	**7.33**	**1.29**	**4.69**	**5.98**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.24	2.33	1.35	0.00	1.90	0.10	2.00	0.01	0.10	0.12		401.94		0.01		402.19
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.36**	**2.45**	**2.79**	**0.00**	**2.21**	**0.11**	**2.32**	**0.02**	**0.11**	**0.14**		**654.76**		**0.02**		**655.31**

3.3 Lagoon 2 &3 - Earthen fill, underdrain system, aggregate - 2014

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					6.53	0.00	6.53	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.53**	**4.69**	**11.22**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.17	1.58	0.92	0.00	1.89	0.07	1.96	0.01	0.07	0.08		273.32		0.01		273.49
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.29**	**1.70**	**2.36**	**0.00**	**2.20**	**0.08**	**2.28**	**0.02**	**0.08**	**0.10**		**526.14**		**0.02**		**526.61**

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					2.55	0.00	2.55	1.29	0.00	1.29						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**2.55**	**4.69**	**7.24**	**1.29**	**4.69**	**5.98**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.17	1.58	0.92	0.00	1.89	0.07	1.96	0.01	0.07	0.08		273.32		0.01		273.49
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.29**	**1.70**	**2.36**	**0.00**	**2.20**	**0.08**	**2.28**	**0.02**	**0.08**	**0.10**		**526.14**		**0.02**		**526.61**

3.4 Lagoon 2 & 3 - Excavate, bed, install, backfill - 2014

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					0.85	0.00	0.85	0.00	0.00	0.00						0.00
Off-Road	5.76	45.67	25.48	0.06		2.12	2.12		2.12	2.12		5,952.90		0.51		5,963.70
Total	**5.76**	**45.67**	**25.48**	**0.06**	**0.85**	**2.12**	**2.97**	**0.00**	**2.12**	**2.12**		**5,952.90**		**0.51**		**5,963.70**

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	0.00	0.03	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00		5.62		0.00		5.63
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.08**	**0.11**	**0.95**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**169.95**		**0.01**		**170.16**

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					0.33	0.00	0.33	0.00	0.00	0.00						0.00
Off-Road	5.76	45.67	25.48	0.06		2.12	2.12		2.12	2.12	0.00	5,952.90		0.51		5,963.70
Total	**5.76**	**45.67**	**25.48**	**0.06**	**0.33**	**2.12**	**2.45**	**0.00**	**2.12**	**2.12**	**0.00**	**5,952.90**		**0.51**		**5,963.70**

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	0.00	0.03	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00		5.62		0.00		5.63
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.08**	**0.11**	**0.95**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**169.95**		**0.01**		**170.16**

3.5 Lagoon 2 & 3 - Construct ramps - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**		**5,558.66**		**0.54**		**5,569.92**

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	0.52	4.95	2.87	0.01	1.91	0.22	2.13	0.03	0.22	0.25		854.12		0.03		854.64
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.64**	**5.07**	**4.31**	**0.01**	**2.22**	**0.23**	**2.45**	**0.04**	**0.23**	**0.27**		**1,106.94**		**0.04**		**1,107.76**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.52	4.95	2.87	0.01	1.91	0.22	2.13	0.03	0.22	0.25		854.12		0.03		854.64
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.64**	**5.07**	**4.31**	**0.01**	**2.22**	**0.23**	**2.45**	**0.04**	**0.23**	**0.27**		**1,106.94**		**0.04**		**1,107.76**

3.6 Lagoon 2 & 3 - Electrical ductbank - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**		**5,558.66**		**0.54**		**5,569.92**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.25		0.00		11.25

Vendor	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
Worker	0.04	0.04	0.50	0.00	0.11	0.00	0.11	0.00	0.00	0.01		88.49		0.01		88.59
Total	**0.05**	**0.11**	**0.54**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**99.74**		**0.01**		**99.84**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.25		0.00		11.25
Vendor	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
Worker	0.04	0.04	0.50	0.00	0.11	0.00	0.11	0.00	0.00	0.01		88.49		0.01		88.59
Total	**0.05**	**0.11**	**0.54**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**99.74**		**0.01**		**99.84**

3.7 Lagoon 7 & 8 - Earthen fill, underdrain system, aggregate - 2014

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					6.45	0.00	6.45	3.31	0.00	3.31						0.00
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**	**6.45**	**2.27**	**8.72**	**3.31**	**2.27**	**5.58**		**5,558.66**		**0.54**		**5,569.92**

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	0.14	1.32	0.76	0.00	1.89	0.06	1.95	0.01	0.06	0.07		227.76		0.01		227.91
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.22**	**1.40**	**1.69**	**0.00**	**2.09**	**0.07**	**2.16**	**0.02**	**0.07**	**0.08**		**392.09**		**0.02**		**392.44**

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					2.51	0.00	2.51	1.29	0.00	1.29						0.00
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**	**2.51**	**2.27**	**4.78**	**1.29**	**2.27**	**3.56**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.14	1.32	0.76	0.00	1.89	0.06	1.95	0.01	0.06	0.07		227.76		0.01		227.91
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.22**	**1.40**	**1.69**	**0.00**	**2.09**	**0.07**	**2.16**	**0.02**	**0.07**	**0.08**		**392.09**		**0.02**		**392.44**

3.8 Lagoon 7 & 8 - Excavate, bed, install, backfill - 2014

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					0.42	0.00	0.42	0.00	0.00	0.00						0.00
Off-Road	2.24	16.41	10.56	0.02		0.86	0.86		0.86	0.86		2,396.57		0.20		2,400.73
Total	**2.24**	**16.41**	**10.56**	**0.02**	**0.42**	**0.86**	**1.28**	**0.00**	**0.86**	**0.86**		**2,396.57**		**0.20**		**2,400.73**

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	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00		2.81		0.00		2.81
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.08**	**0.10**	**0.94**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**167.14**		**0.01**		**167.34**

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					0.17	0.00	0.17	0.00	0.00	0.00						0.00
Off-Road	2.24	16.41	10.56	0.02		0.86	0.86		0.86	0.86	0.00	2,396.57		0.20		2,400.73
Total	**2.24**	**16.41**	**10.56**	**0.02**	**0.17**	**0.86**	**1.03**	**0.00**	**0.86**	**0.86**	**0.00**	**2,396.57**		**0.20**		**2,400.73**

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	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00		2.81		0.00		2.81
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.08**	**0.10**	**0.94**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**167.14**		**0.01**		**167.34**

3.9 Lagoon 7 & 8 - Construct sumps - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**		**4.69**	**4.69**		**4.69**	**4.69**		**13,258.93**		**1.19**		**13,283.86**

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	0.01	0.10	0.06	0.00	0.02	0.00	0.03	0.00	0.00	0.00		16.87		0.00		16.88
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.09**	**0.18**	**0.99**	**0.00**	**0.22**	**0.01**	**0.24**	**0.01**	**0.01**	**0.01**		**181.20**		**0.01**		**181.41**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**		**4.69**	**4.69**		**4.69**	**4.69**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.01	0.10	0.06	0.00	0.02	0.00	0.03	0.00	0.00	0.00		16.87		0.00		16.88
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.20	0.01	0.21	0.01	0.01	0.01		164.33		0.01		164.53
Total	**0.09**	**0.18**	**0.99**	**0.00**	**0.22**	**0.01**	**0.24**	**0.01**	**0.01**	**0.01**		**181.20**		**0.01**		**181.41**

3.10 Lagoon 7 & 8 - Electrical ductbank - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.65	26.45	18.68	0.04		1.49	1.49		1.49	1.49		3,705.79		0.32		3,712.58
Total	**3.65**	**26.45**	**18.68**	**0.04**		**1.49**	**1.49**		**1.49**	**1.49**		**3,705.79**		**0.32**		**3,712.58**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.25		0.00		11.25

Vendor	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
Worker	0.04	0.04	0.50	0.00	0.11	0.00	0.11	0.00	0.00	0.01		88.49		0.01		88.59
Total	**0.05**	**0.11**	**0.54**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**99.74**		**0.01**		**99.84**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.65	26.45	18.68	0.04		1.49	1.49		1.49	1.49	0.00	3,705.79		0.32		3,712.58
Total	**3.65**	**26.45**	**18.68**	**0.04**		**1.49**	**1.49**		**1.49**	**1.49**	**0.00**	**3,705.79**		**0.32**		**3,712.58**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.25		0.00		11.25
Vendor	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
Worker	0.04	0.04	0.50	0.00	0.11	0.00	0.11	0.00	0.00	0.01		88.49		0.01		88.59
Total	**0.05**	**0.11**	**0.54**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**99.74**		**0.01**		**99.84**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/11/2012

Jensen Addendum Construction Emissions - Lagoons

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	12		2.2		
		Precipitation Freq (Days)			
			33		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximately 12-acres for Lagoons

Construction Phase - Lagoon Construction Schedule

Off-road Equipment - Construction equipment for Lagoon 2 & 3 Excavate & Build Berm phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3 Earthen fill, underdrain system, and aggregate phase. Includes overlap of construction activities.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Excavate, bed, install, and backfill phase. Includes partial overlap with excavate and build berm phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Construct ramps phase.

Off-road Equipment - Construction equipment for Lagoon 2 & 3, Electrical ductbank phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Earthen fill, underdrain system, and aggregate phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Excavate, bed, install, and backfill phase.

Off-road Equipment - Construction equipment for Lagoon 7 & 8, construct sump phase (includes overlap with other activities).

Off-road Equipment - Construction equipment for Lagoon 7 & 8, Electrical ductbank phase (includes overlap with construction of sumps).

Grading - Approximately 12 acres for lagoons.

Trips and VMT - Approximate worker and haul truck and utility truck trips.

Construction Off-road Equipment Mitigation -

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					
2014	13.65	111.56	57.54	0.13	8.98	4.80	13.78	3.34	4.80	8.14	0.00	13,893.17	0.00	1.21	0.00	13,918.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	13.65	111.56	57.54	0.13	4.85	4.80	9.65	1.32	4.80	6.12	0.00	13,893.17	0.00	1.21	0.00	13,918.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Lagoon 2 & 3 - Excavate & build berm - 2014

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					6.77	0.00	6.77	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.77**	**4.69**	**11.46**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.25	2.45	1.46	0.00	1.90	0.10	2.00	0.01	0.10	0.12		400.02		0.01		400.27
Vendor	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

Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.39**	**2.59**	**2.82**	**0.00**	**2.21**	**0.11**	**2.32**	**0.02**	**0.11**	**0.14**		**634.24**		**0.02**		**634.78**

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					2.64	0.00	2.64	1.29	0.00	1.29						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**2.64**	**4.69**	**7.33**	**1.29**	**4.69**	**5.98**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.25	2.45	1.46	0.00	1.90	0.10	2.00	0.01	0.10	0.12		400.02		0.01		400.27
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.39**	**2.59**	**2.82**	**0.00**	**2.21**	**0.11**	**2.32**	**0.02**	**0.11**	**0.14**		**634.24**		**0.02**		**634.78**

3.3 Lagoon 2 &3 - Earthen fill, underdrain system, aggregate - 2014

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					6.53	0.00	6.53	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.53**	**4.69**	**11.22**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.17	1.67	0.99	0.00	1.89	0.07	1.96	0.01	0.07	0.08		272.01		0.01		272.19
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.31**	**1.81**	**2.35**	**0.00**	**2.20**	**0.08**	**2.28**	**0.02**	**0.08**	**0.10**		**506.23**		**0.02**		**506.70**

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					2.55	0.00	2.55	1.29	0.00	1.29						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**2.55**	**4.69**	**7.24**	**1.29**	**4.69**	**5.98**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.17	1.67	0.99	0.00	1.89	0.07	1.96	0.01	0.07	0.08		272.01		0.01		272.19
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.31**	**1.81**	**2.35**	**0.00**	**2.20**	**0.08**	**2.28**	**0.02**	**0.08**	**0.10**		**506.23**		**0.02**		**506.70**

3.4 Lagoon 2 & 3 - Excavate, bed, install, backfill - 2014

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					0.85	0.00	0.85	0.00	0.00	0.00						0.00
Off-Road	5.76	45.67	25.48	0.06		2.12	2.12		2.12	2.12		5,952.90		0.51		5,963.70
Total	**5.76**	**45.67**	**25.48**	**0.06**	**0.85**	**2.12**	**2.97**	**0.00**	**2.12**	**2.12**		**5,952.90**		**0.51**		**5,963.70**

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	0.00	0.03	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00		5.60		0.00		5.60
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.09**	**0.12**	**0.90**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**157.84**		**0.01**		**158.03**

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					0.33	0.00	0.33	0.00	0.00	0.00						0.00
Off-Road	5.76	45.67	25.48	0.06		2.12	2.12		2.12	2.12	0.00	5,952.90		0.51		5,963.70
Total	**5.76**	**45.67**	**25.48**	**0.06**	**0.33**	**2.12**	**2.45**	**0.00**	**2.12**	**2.12**	**0.00**	**5,952.90**		**0.51**		**5,963.70**

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	0.00	0.03	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00		5.60		0.00		5.60
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.09**	**0.12**	**0.90**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**157.84**		**0.01**		**158.03**

3.5 Lagoon 2 & 3 - Construct ramps - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**		**5,558.66**		**0.54**		**5,569.92**

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	0.53	5.21	3.10	0.01	1.91	0.22	2.13	0.03	0.22	0.25		850.04		0.03		850.58
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.67**	**5.35**	**4.46**	**0.01**	**2.22**	**0.23**	**2.45**	**0.04**	**0.23**	**0.27**		**1,084.26**		**0.04**		**1,085.09**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.53	5.21	3.10	0.01	1.91	0.22	2.13	0.03	0.22	0.25		850.04		0.03		850.58
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.67**	**5.35**	**4.46**	**0.01**	**2.22**	**0.23**	**2.45**	**0.04**	**0.23**	**0.27**		**1,084.26**		**0.04**		**1,085.09**

3.6 Lagoon 2 & 3 - Electrical ductbank - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**		**5,558.66**		**0.54**		**5,569.92**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.19		0.00		11.20

Vendor	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
Worker	0.05	0.05	0.48	0.00	0.11	0.00	0.11	0.00	0.00	0.01		81.98		0.00		82.08
Total	**0.06**	**0.12**	**0.52**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**93.17**		**0.00**		**93.28**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**		**2.27**	**2.27**		**2.27**	**2.27**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.19		0.00		11.20
Vendor	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
Worker	0.05	0.05	0.48	0.00	0.11	0.00	0.11	0.00	0.00	0.01		81.98		0.00		82.08
Total	**0.06**	**0.12**	**0.52**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**93.17**		**0.00**		**93.28**

3.7 Lagoon 7 & 8 - Earthen fill, underdrain system, aggregate - 2014

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					6.45	0.00	6.45	3.31	0.00	3.31						0.00
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27		5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**	**6.45**	**2.27**	**8.72**	**3.31**	**2.27**	**5.58**		**5,558.66**		**0.54**		**5,569.92**

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	0.14	1.39	0.83	0.00	1.89	0.06	1.95	0.01	0.06	0.07		226.68		0.01		226.82
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.23**	**1.48**	**1.71**	**0.00**	**2.09**	**0.07**	**2.16**	**0.02**	**0.07**	**0.08**		**378.92**		**0.02**		**379.25**

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					2.51	0.00	2.51	1.29	0.00	1.29						0.00
Off-Road	6.00	46.35	27.53	0.05		2.27	2.27		2.27	2.27	0.00	5,558.66		0.54		5,569.92
Total	**6.00**	**46.35**	**27.53**	**0.05**	**2.51**	**2.27**	**4.78**	**1.29**	**2.27**	**3.56**	**0.00**	**5,558.66**		**0.54**		**5,569.92**

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	0.14	1.39	0.83	0.00	1.89	0.06	1.95	0.01	0.06	0.07		226.68		0.01		226.82
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.23**	**1.48**	**1.71**	**0.00**	**2.09**	**0.07**	**2.16**	**0.02**	**0.07**	**0.08**		**378.92**		**0.02**		**379.25**

3.8 Lagoon 7 & 8 - Excavate, bed, install, backfill - 2014

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					0.42	0.00	0.42	0.00	0.00	0.00						0.00
Off-Road	2.24	16.41	10.56	0.02		0.86	0.86		0.86	0.86		2,396.57		0.20		2,400.73
Total	**2.24**	**16.41**	**10.56**	**0.02**	**0.42**	**0.86**	**1.28**	**0.00**	**0.86**	**0.86**		**2,396.57**		**0.20**		**2,400.73**

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	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00		2.80		0.00		2.80
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.09**	**0.11**	**0.89**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**155.04**		**0.01**		**155.23**

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					0.17	0.00	0.17	0.00	0.00	0.00						0.00
Off-Road	2.24	16.41	10.56	0.02		0.86	0.86		0.86	0.86	0.00	2,396.57		0.20		2,400.73
Total	**2.24**	**16.41**	**10.56**	**0.02**	**0.17**	**0.86**	**1.03**	**0.00**	**0.86**	**0.86**	**0.00**	**2,396.57**		**0.20**		**2,400.73**

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	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00		2.80		0.00		2.80
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.09**	**0.11**	**0.89**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**155.04**		**0.01**		**155.23**

3.9 Lagoon 7 & 8 - Construct sumps - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**		**4.69**	**4.69**		**4.69**	**4.69**		**13,258.93**		**1.19**		**13,283.86**

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	0.01	0.10	0.06	0.00	0.02	0.00	0.03	0.00	0.00	0.00		16.79		0.00		16.80
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.10**	**0.19**	**0.94**	**0.00**	**0.22**	**0.01**	**0.24**	**0.01**	**0.01**	**0.01**		**169.03**		**0.01**		**169.23**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69	0.00	13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**		**4.69**	**4.69**		**4.69**	**4.69**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.01	0.10	0.06	0.00	0.02	0.00	0.03	0.00	0.00	0.00		16.79		0.00		16.80
Vendor	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
Worker	0.09	0.09	0.88	0.00	0.20	0.01	0.21	0.01	0.01	0.01		152.24		0.01		152.43
Total	**0.10**	**0.19**	**0.94**	**0.00**	**0.22**	**0.01**	**0.24**	**0.01**	**0.01**	**0.01**		**169.03**		**0.01**		**169.23**

3.10 Lagoon 7 & 8 - Electrical ductbank - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.65	26.45	18.68	0.04		1.49	1.49		1.49	1.49		3,705.79		0.32		3,712.58
Total	**3.65**	**26.45**	**18.68**	**0.04**		**1.49**	**1.49**		**1.49**	**1.49**		**3,705.79**		**0.32**		**3,712.58**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.19		0.00		11.20

Vendor	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
Worker	0.05	0.05	0.48	0.00	0.11	0.00	0.11	0.00	0.00	0.01		81.98		0.00		82.08
Total	**0.06**	**0.12**	**0.52**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**93.17**		**0.00**		**93.28**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.65	26.45	18.68	0.04		1.49	1.49		1.49	1.49	0.00	3,705.79		0.32		3,712.58
Total	**3.65**	**26.45**	**18.68**	**0.04**		**1.49**	**1.49**		**1.49**	**1.49**	**0.00**	**3,705.79**		**0.32**		**3,712.58**

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	0.01	0.07	0.04	0.00	0.05	0.00	0.05	0.00	0.00	0.00		11.19		0.00		11.20
Vendor	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
Worker	0.05	0.05	0.48	0.00	0.11	0.00	0.11	0.00	0.00	0.01		81.98		0.00		82.08
Total	**0.06**	**0.12**	**0.52**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**93.17**		**0.00**		**93.28**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/12/2012

Jensen Addendum Construction Emissions - Conveyance System

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	12		2.2		
		Precipitation Freq (Days)			
			33		

1.3 User Entered Comments

Project Characteristics -

Land Use - Conveyance system pipeline assumed to cover approximately 1.4 acres.

Construction Phase - Conveyance System components broken down evenly over construction schedule (Feb. 2014 - Dec. 2014).

Off-road Equipment - Construction equipment for Pump Station to Air Gap phase.

Off-road Equipment - Construction equipment for Around Air Gap phase.

Off-road Equipment - Construction equipment for Air Gap to Lagoon phase.

Off-road Equipment - Construction equipment for New Ulity Bridge & Lgoon Inlet Piping phase.

Grading - 1.4 acres/3 = 0.47 acres.

Trips and VMT - Utility truck trips added to haul trips.

Construction Off-road Equipment Mitigation -

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					
2014	4.81	35.84	20.42	0.05	2.57	1.75	4.32	0.01	1.75	1.76	0.00	5,454.97	0.00	0.43	0.00	5,463.93
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	4.81	35.84	20.42	0.05	2.56	1.75	4.31	0.01	1.75	1.76	0.00	5,454.97	0.00	0.43	0.00	5,463.93
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce
Vehicle

3.2 Pump Station to Air Gap - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00
Off-Road	3.19	23.85	11.27	0.04		1.03	1.03		1.03	1.03		3,847.38		0.28		3,853.30
Total	**3.19**	**23.85**	**11.27**	**0.04**	**0.01**	**1.03**	**1.04**	**0.00**	**1.03**	**1.03**		**3,847.38**		**0.28**		**3,853.30**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.06	0.06	0.72	0.00	0.15	0.01	0.16	0.01	0.01	0.01		126.41		0.01		126.56
Total	**0.15**	**0.88**	**1.19**	**0.00**	**2.48**	**0.05**	**2.53**	**0.01**	**0.05**	**0.05**		**267.01**		**0.01**		**267.24**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	3.19	23.85	11.27	0.04		1.03	1.03		1.03	1.03	0.00	3,847.38		0.28		3,853.30
Total	**3.19**	**23.85**	**11.27**	**0.04**	**0.00**	**1.03**	**1.03**	**0.00**	**1.03**	**1.03**	**0.00**	**3,847.38**		**0.28**		**3,853.30**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.06	0.06	0.72	0.00	0.15	0.01	0.16	0.01	0.01	0.01		126.41		0.01		126.56
Total	**0.15**	**0.88**	**1.19**	**0.00**	**2.48**	**0.05**	**2.53**	**0.01**	**0.05**	**0.05**		**267.01**		**0.01**		**267.24**

3.3 Around Air Gap - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00
Off-Road	0.71	4.75	3.92	0.01		0.36	0.36		0.36	0.36		585.31		0.06		586.65
Total	**0.71**	**4.75**	**3.92**	**0.01**	**0.01**	**0.36**	**0.37**	**0.00**	**0.36**	**0.36**		**585.31**		**0.06**		**586.65**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.00	0.00	0.01		63.20		0.00		63.28
Total	**0.12**	**0.85**	**0.83**	**0.00**	**2.41**	**0.04**	**2.45**	**0.00**	**0.04**	**0.05**		**203.80**		**0.00**		**203.96**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	0.71	4.75	3.92	0.01		0.36	0.36		0.36	0.36	0.00	585.31		0.06		586.65
Total	**0.71**	**4.75**	**3.92**	**0.01**	**0.00**	**0.36**	**0.36**	**0.00**	**0.36**	**0.36**	**0.00**	**585.31**		**0.06**		**586.65**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.00	0.00	0.01		63.20		0.00		63.28
Total	**0.12**	**0.85**	**0.83**	**0.00**	**2.41**	**0.04**	**2.45**	**0.00**	**0.04**	**0.05**		**203.80**		**0.00**		**203.96**

3.4 Air Gap to Lagoon - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00
Off-Road	4.64	34.05	18.87	0.05		1.71	1.71		1.71	1.71		5,048.54		0.41		5,057.18
Total	**4.64**	**34.05**	**18.87**	**0.05**	**0.01**	**1.71**	**1.72**	**0.00**	**1.71**	**1.71**		**5,048.54**		**0.41**		**5,057.18**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.18**	**0.91**	**1.55**	**0.00**	**2.56**	**0.05**	**2.61**	**0.01**	**0.05**	**0.06**		**330.21**		**0.01**		**330.52**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.64	34.05	18.87	0.05		1.71	1.71		1.71	1.71	0.00	5,048.54		0.41		5,057.18
Total	**4.64**	**34.05**	**18.87**	**0.05**	**0.00**	**1.71**	**1.71**	**0.00**	**1.71**	**1.71**	**0.00**	**5,048.54**		**0.41**		**5,057.18**

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	0.09	0.82	0.47	0.00	2.33	0.04	2.37	0.00	0.04	0.04		140.60		0.00		140.68
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.18**	**0.91**	**1.55**	**0.00**	**2.56**	**0.05**	**2.61**	**0.01**	**0.05**	**0.06**		**330.21**		**0.01**		**330.52**

3.5 New Utility Bridge & Lagoon Inlet Piping - 2014

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.66	35.73	17.45	0.05		1.60	1.60		1.60	1.60		5,262.45		0.41		5,271.13

Total	**4.66**	**35.73**	**17.45**	**0.05**	**0.00**	**1.60**	**1.60**	**0.00**	**1.60**	**1.60**		**5,262.45**		**0.41**		**5,271.13**

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	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.00	0.00	0.00		2.91		0.00		2.91
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.09**	**0.11**	**1.09**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**192.52**		**0.01**		**192.75**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.66	35.73	17.45	0.05		1.60	1.60		1.60	1.60	0.00	5,262.45		0.41		5,271.13
Total	**4.66**	**35.73**	**17.45**	**0.05**	**0.00**	**1.60**	**1.60**	**0.00**	**1.60**	**1.60**	**0.00**	**5,262.45**		**0.41**		**5,271.13**

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	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.00	0.00	0.00		2.91		0.00		2.91
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.09**	**0.11**	**1.09**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**192.52**		**0.01**		**192.75**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/12/2012

Jensen Addendum Construction Emissions - Conveyance System

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	12		2.2		
		Precipitation Freq (Days)			
			33		

1.3 User Entered Comments

Project Characteristics -

Land Use - Conveyance system pipeline assumed to cover approximately 1.4 acres.

Construction Phase - Conveyance System components broken down evenly over construction schedule (Feb. 2014 - Dec. 2014).

Off-road Equipment - Construction equipment for Pump Station to Air Gap phase.

Off-road Equipment - Construction equipment for Around Air Gap phase.

Off-road Equipment - Construction equipment for Air Gap to Lagoon phase.

Off-road Equipment - Construction equipment for New Ulity Bridge & Lgoon Inlet Piping phase.

Grading - 1.4 acres/3 = 0.47 acres.

Trips and VMT - Utility truck trips added to haul trips.

Construction Off-road Equipment Mitigation -

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					
2014	4.82	35.85	20.40	0.05	2.57	1.75	4.32	0.01	1.75	1.76	0.00	5,441.00	0.00	0.43	0.00	5,449.95
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	4.82	35.85	20.40	0.05	2.56	1.75	4.31	0.01	1.75	1.76	0.00	5,441.00	0.00	0.43	0.00	5,449.95
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Pump Station to Air Gap - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00
Off-Road	3.19	23.85	11.27	0.04		1.03	1.03		1.03	1.03		3,847.38		0.28		3,853.30
Total	**3.19**	**23.85**	**11.27**	**0.04**	**0.01**	**1.03**	**1.04**	**0.00**	**1.03**	**1.03**		**3,847.38**		**0.28**		**3,853.30**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.15	0.01	0.16	0.01	0.01	0.01		117.11		0.01		117.25
Total	**0.16**	**0.93**	**1.19**	**0.00**	**2.48**	**0.05**	**2.53**	**0.01**	**0.05**	**0.05**		**257.03**		**0.01**		**257.26**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	3.19	23.85	11.27	0.04		1.03	1.03		1.03	1.03	0.00	3,847.38		0.28		3,853.30
Total	**3.19**	**23.85**	**11.27**	**0.04**	**0.00**	**1.03**	**1.03**	**0.00**	**1.03**	**1.03**	**0.00**	**3,847.38**		**0.28**		**3,853.30**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.15	0.01	0.16	0.01	0.01	0.01		117.11		0.01		117.25
Total	**0.16**	**0.93**	**1.19**	**0.00**	**2.48**	**0.05**	**2.53**	**0.01**	**0.05**	**0.05**		**257.03**		**0.01**		**257.26**

3.3 Around Air Gap - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00

Off-Road	0.71	4.75	3.92	0.01		0.36	0.36		0.36	0.36		585.31		0.06		586.65
Total	**0.71**	**4.75**	**3.92**	**0.01**	**0.01**	**0.36**	**0.37**	**0.00**	**0.36**	**0.36**		**585.31**		**0.06**		**586.65**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.03	0.04	0.34	0.00	0.08	0.00	0.08	0.00	0.00	0.01		58.55		0.00		58.63
Total	**0.12**	**0.90**	**0.85**	**0.00**	**2.41**	**0.04**	**2.45**	**0.00**	**0.04**	**0.05**		**198.47**		**0.00**		**198.64**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	0.71	4.75	3.92	0.01		0.36	0.36		0.36	0.36	0.00	585.31		0.06		586.65
Total	**0.71**	**4.75**	**3.92**	**0.01**	**0.00**	**0.36**	**0.36**	**0.00**	**0.36**	**0.36**	**0.00**	**585.31**		**0.06**		**586.65**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.03	0.04	0.34	0.00	0.08	0.00	0.08	0.00	0.00	0.01		58.55		0.00		58.63
Total	**0.12**	**0.90**	**0.85**	**0.00**	**2.41**	**0.04**	**2.45**	**0.00**	**0.04**	**0.05**		**198.47**		**0.00**		**198.64**

3.4 Air Gap to Lagoon - 2014

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					0.01	0.00	0.01	0.00	0.00	0.00						0.00
Off-Road	4.64	34.05	18.87	0.05		1.71	1.71		1.71	1.71		5,048.54		0.41		5,057.18
Total	**4.64**	**34.05**	**18.87**	**0.05**	**0.01**	**1.71**	**1.72**	**0.00**	**1.71**	**1.71**		**5,048.54**		**0.41**		**5,057.18**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88

Total	**0.19**	**0.97**	**1.53**	**0.00**	**2.56**	**0.05**	**2.61**	**0.01**	**0.05**	**0.06**		**315.58**		**0.01**		**315.89**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.64	34.05	18.87	0.05		1.71	1.71		1.71	1.71	0.00	5,048.54		0.41		5,057.18
Total	**4.64**	**34.05**	**18.87**	**0.05**	**0.00**	**1.71**	**1.71**	**0.00**	**1.71**	**1.71**	**0.00**	**5,048.54**		**0.41**		**5,057.18**

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	0.09	0.86	0.51	0.00	2.33	0.04	2.37	0.00	0.04	0.04		139.92		0.00		140.01
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.19**	**0.97**	**1.53**	**0.00**	**2.56**	**0.05**	**2.61**	**0.01**	**0.05**	**0.06**		**315.58**		**0.01**		**315.89**

3.5 New Utility Bridge & Lagoon Inlet Piping - 2014

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.66	35.73	17.45	0.05		1.60	1.60		1.60	1.60		5,262.45		0.41		5,271.13
Total	**4.66**	**35.73**	**17.45**	**0.05**	**0.00**	**1.60**	**1.60**	**0.00**	**1.60**	**1.60**		**5,262.45**		**0.41**		**5,271.13**

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	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.00	0.00	0.00		2.89		0.00		2.90
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.10**	**0.13**	**1.03**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**178.55**		**0.01**		**178.78**

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					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	4.66	35.73	17.45	0.05		1.60	1.60		1.60	1.60	0.00	5,262.45		0.41		5,271.13
Total	**4.66**	**35.73**	**17.45**	**0.05**	**0.00**	**1.60**	**1.60**	**0.00**	**1.60**	**1.60**	**0.00**	**5,262.45**		**0.41**		**5,271.13**

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	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.00	0.00	0.00		2.89		0.00		2.90
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.10**	**0.13**	**1.03**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**178.55**		**0.01**		**178.78**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/12/2012

Jensen Addendum Construcion Emissions - Worst Case Day (Lagoons + Conveyance Sysem)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**
Climate Zone	12		2.2	
		Precipitation Freq (Days)		
			33	

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximately 13.4 acre coverage by lagoons and conveyance system.

Construction Phase - Worst-case construction day - overlap between construction of Lagoons 2 & 3 and Conveyance System

Off-road Equipment - Construction equipment for conveyance system.

Off-road Equipment - Construction equipment for Lagoons 2 & 3.

Trips and VMT - Construction trips.

Grading - 1,500 cy of haul-off for conveyance system.

Construction Off-road Equipment Mitigation -

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					
2014	19.83	157.93	85.29	0.20	13.83	7.13	20.96	3.38	7.13	10.51	0.00	20,986.52	0.00	1.74	0.00	21,023.03
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	14.77	97.00	104.08	0.20	9.57	6.22	15.79	1.36	6.22	7.58	0.00	20,986.52	0.00	1.74	0.00	21,023.03
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Lagoons 2 & 3 - 2014

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					6.87	0.00	6.87	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.87**	**4.69**	**11.56**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.28	2.64	1.53	0.00	1.90	0.12	2.02	0.02	0.12	0.13		455.53		0.01		455.81
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.40**	**2.76**	**2.97**	**0.00**	**2.21**	**0.13**	**2.34**	**0.03**	**0.13**	**0.15**		**708.35**		**0.02**		**708.93**

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					2.68	0.00	2.68	1.29	0.00	1.29						0.00
Off-Road	9.42	60.99	65.22	0.12		3.86	3.86		3.86	3.86	0.00	13,258.93		1.19		13,283.86
Total	**9.42**	**60.99**	**65.22**	**0.12**	**2.68**	**3.86**	**6.54**	**1.29**	**3.86**	**5.15**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.28	2.64	1.53	0.00	1.90	0.12	2.02	0.02	0.12	0.13		455.53		0.01		455.81
Vendor	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
Worker	0.12	0.12	1.44	0.00	0.31	0.01	0.32	0.01	0.01	0.02		252.82		0.01		253.12
Total	**0.40**	**2.76**	**2.97**	**0.00**	**2.21**	**0.13**	**2.34**	**0.03**	**0.13**	**0.15**		**708.35**		**0.02**		**708.93**

3.3 Conveyance Sysem - 2014

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					0.11	0.00	0.11	0.00	0.00	0.00						0.00
Off-Road	5.42	39.98	22.98	0.06		2.04	2.04		2.04	2.04		5,772.35		0.48		5,782.47
Total	**5.42**	**39.98**	**22.98**	**0.06**	**0.11**	**2.04**	**2.15**	**0.00**	**2.04**	**2.04**		**5,772.35**		**0.48**		**5,782.47**

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	0.64	6.13	3.55	0.01	4.41	0.27	4.68	0.04	0.27	0.30		1,057.28		0.03		1,057.93
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.73**	**6.22**	**4.63**	**0.01**	**4.64**	**0.28**	**4.92**	**0.05**	**0.28**	**0.32**		**1,246.89**		**0.04**		**1,247.77**

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					0.04	0.00	0.04	0.00	0.00	0.00						0.00
Off-Road	4.22	27.03	31.27	0.06		1.96	1.96		1.96	1.96	0.00	5,772.35		0.48		5,782.47
Total	**4.22**	**27.03**	**31.27**	**0.06**	**0.04**	**1.96**	**2.00**	**0.00**	**1.96**	**1.96**	**0.00**	**5,772.35**		**0.48**		**5,782.47**

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	0.64	6.13	3.55	0.01	4.41	0.27	4.68	0.04	0.27	0.30		1,057.28		0.03		1,057.93
Vendor	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
Worker	0.09	0.09	1.08	0.00	0.23	0.01	0.24	0.01	0.01	0.02		189.61		0.01		189.84
Total	**0.73**	**6.22**	**4.63**	**0.01**	**4.64**	**0.28**	**4.92**	**0.05**	**0.28**	**0.32**		**1,246.89**		**0.04**		**1,247.77**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/12/2012

Jensen Addendum Construcion Emissions - Worst Case Day (Lagoons + Conveyance Sysem)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	12		2.2		
		Precipitation Freq (Days)			
			33		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximately 13.4 acre coverage by lagoons and conveyance system.

Construction Phase - Worst-case construction day - overlap between construction of Lagoons 2 & 3 and Conveyance System

Off-road Equipment - Construction equipment for conveyance system.

Off-road Equipment - Construction equipment for Lagoons 2 & 3.

Trips and VMT - Construction trips.

Grading - 1,500 cy of haul-off for conveyance system.

Construction Off-road Equipment Mitigation -

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					
2014	19.87	158.42	85.57	0.19	13.83	7.13	20.96	3.38	7.13	10.51	0.00	20,946.74	0.00	1.74	0.00	20,983.26
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	14.81	97.50	104.36	0.19	9.57	6.22	15.79	1.36	6.22	7.58	0.00	20,946.74	0.00	1.74	0.00	20,983.26
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Lagoons 2 & 3 - 2014

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					6.87	0.00	6.87	3.31	0.00	3.31						0.00
Off-Road	13.27	108.97	54.73	0.12		4.69	4.69		4.69	4.69		13,258.93		1.19		13,283.86
Total	**13.27**	**108.97**	**54.73**	**0.12**	**6.87**	**4.69**	**11.56**	**3.31**	**4.69**	**8.00**		**13,258.93**		**1.19**		**13,283.86**

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	0.28	2.78	1.65	0.00	1.90	0.12	2.02	0.02	0.12	0.13		453.35		0.01		453.64
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.42**	**2.92**	**3.01**	**0.00**	**2.21**	**0.13**	**2.34**	**0.03**	**0.13**	**0.15**		**687.57**		**0.02**		**688.15**

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					2.68	0.00	2.68	1.29	0.00	1.29						0.00
Off-Road	9.42	60.99	65.22	0.12		3.86	3.86		3.86	3.86	0.00	13,258.93		1.19		13,283.86
Total	**9.42**	**60.99**	**65.22**	**0.12**	**2.68**	**3.86**	**6.54**	**1.29**	**3.86**	**5.15**	**0.00**	**13,258.93**		**1.19**		**13,283.86**

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	0.28	2.78	1.65	0.00	1.90	0.12	2.02	0.02	0.12	0.13		453.35		0.01		453.64
Vendor	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
Worker	0.14	0.14	1.36	0.00	0.31	0.01	0.32	0.01	0.01	0.02		234.22		0.01		234.51
Total	**0.42**	**2.92**	**3.01**	**0.00**	**2.21**	**0.13**	**2.34**	**0.03**	**0.13**	**0.15**		**687.57**		**0.02**		**688.15**

3.3 Conveyance Sysem - 2014

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					0.11	0.00	0.11	0.00	0.00	0.00						0.00

Off-Road	5.42	39.98	22.98	0.06		2.04	2.04		2.04	2.04		5,772.35		0.48		5,782.47
Total	**5.42**	**39.98**	**22.98**	**0.06**	**0.11**	**2.04**	**2.15**	**0.00**	**2.04**	**2.04**		**5,772.35**		**0.48**		**5,782.47**

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	0.66	6.45	3.84	0.01	4.41	0.27	4.68	0.04	0.27	0.31		1,052.23		0.03		1,052.90
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.76**	**6.56**	**4.86**	**0.01**	**4.64**	**0.28**	**4.92**	**0.05**	**0.28**	**0.33**		**1,227.89**		**0.04**		**1,228.78**

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					0.04	0.00	0.04	0.00	0.00	0.00						0.00
Off-Road	4.22	27.03	31.27	0.06		1.96	1.96		1.96	1.96	0.00	5,772.35		0.48		5,782.47
Total	**4.22**	**27.03**	**31.27**	**0.06**	**0.04**	**1.96**	**2.00**	**0.00**	**1.96**	**1.96**	**0.00**	**5,772.35**		**0.48**		**5,782.47**

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	0.66	6.45	3.84	0.01	4.41	0.27	4.68	0.04	0.27	0.31		1,052.23		0.03		1,052.90
Vendor	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
Worker	0.10	0.11	1.02	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.66		0.01		175.88
Total	**0.76**	**6.56**	**4.86**	**0.01**	**4.64**	**0.28**	**4.92**	**0.05**	**0.28**	**0.33**		**1,227.89**		**0.04**		**1,228.78**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/11/2012

Jensen Addedum Construction Emissions - Belt Press Building

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	38.7	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**
Climate Zone	12		2.2	
		Precipitation Freq (Days)		
			33	

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - 250 days for site preparation.

Off-road Equipment - Worst-case day construction equipment.

Grading - 6,481 cy of import. Belt Press Building to be constructed on 5-acre site within Jensen Plant.

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.51	50.66	60.97	0.14	31.54	2.21	33.75	6.63	2.21	8.84	0.00	13,686.60	0.00	0.76	0.00	13,702.57
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.51	50.66	60.97	0.14	24.18	2.21	26.39	2.59	2.21	4.80	0.00	13,686.60	0.00	0.76	0.00	13,702.57
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.07	0.00	12.07	6.62	0.00	6.62						0.00
Off-Road	8.28	49.75	58.99	0.13		2.16	2.16		2.16	2.16		12,976.21		0.74		12,991.74
Total	**8.28**	**49.75**	**58.99**	**0.13**	**12.07**	**2.16**	**14.23**	**6.62**	**2.16**	**8.78**		**12,976.21**		**0.74**		**12,991.74**

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	0.08	0.78	0.45	0.00	18.86	0.03	18.88	0.00	0.02	0.03		278.13		0.00		278.20
Vendor	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
Worker	0.15	0.12	1.53	0.01	0.61	0.02	0.64	0.01	0.02	0.03		432.26		0.02		432.62
Total	**0.23**	**0.90**	**1.98**	**0.01**	**19.47**	**0.05**	**19.52**	**0.01**	**0.04**	**0.06**		**710.39**		**0.02**		**710.82**

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					4.71	0.00	4.71	2.58	0.00	2.58						0.00
Off-Road	8.28	49.75	58.99	0.13		2.16	2.16		2.16	2.16	0.00	12,976.21		0.74		12,991.74

Total	**8.28**	**49.75**	**58.99**	**0.13**	**4.71**	**2.16**	**6.87**	**2.58**	**2.16**	**4.74**	**0.00**	**12,976.21**		**0.74**		**12,991.74**

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	0.08	0.78	0.45	0.00	18.86	0.03	18.88	0.00	0.02	0.03		278.13		0.00		278.20
Vendor	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
Worker	0.15	0.12	1.53	0.01	0.61	0.02	0.64	0.01	0.02	0.03		432.26		0.02		432.62
Total	**0.23**	**0.90**	**1.98**	**0.01**	**19.47**	**0.05**	**19.52**	**0.01**	**0.04**	**0.06**		**710.39**		**0.02**		**710.82**

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/11/2012

Jensen Addedum Construction Emissions - Belt Press Building

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	38.7	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**
Climate Zone	12		2.2	
		Precipitation Freq (Days)		
			33	

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - 250 days for site preparation.

Off-road Equipment - Worst-case day construction equipment.

Grading - 6,481 cy of import. Belt Press Building to be constructed on 5-acre site within Jensen Plant.

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.52	50.70	60.92	0.14	31.54	2.21	33.75	6.63	2.21	8.84	0.00	13,652.76	0.00	0.76	0.00	13,668.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.52	50.70	60.92	0.14	24.18	2.21	26.39	2.59	2.21	4.80	0.00	13,652.76	0.00	0.76	0.00	13,668.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.07	0.00	12.07	6.62	0.00	6.62						0.00
Off-Road	8.28	49.75	58.99	0.13		2.16	2.16		2.16	2.16		12,976.21		0.74		12,991.74
Total	**8.28**	**49.75**	**58.99**	**0.13**	**12.07**	**2.16**	**14.23**	**6.62**	**2.16**	**8.78**		**12,976.21**		**0.74**		**12,991.74**

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	0.08	0.80	0.52	0.00	18.86	0.03	18.88	0.00	0.02	0.03		276.53		0.00		276.61
Vendor	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
Worker	0.17	0.14	1.42	0.00	0.61	0.02	0.64	0.01	0.02	0.03		400.02		0.02		400.36
Total	**0.25**	**0.94**	**1.94**	**0.00**	**19.47**	**0.05**	**19.52**	**0.01**	**0.04**	**0.06**		**676.55**		**0.02**		**676.97**

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					4.71	0.00	4.71	2.58	0.00	2.58						0.00
Off-Road	8.28	49.75	58.99	0.13		2.16	2.16		2.16	2.16	0.00	12,976.21		0.74		12,991.74

Total	**8.28**	**49.75**	**58.99**	**0.13**	**4.71**	**2.16**	**6.87**	**2.58**	**2.16**	**4.74**	**0.00**	**12,976.21**		**0.74**		**12,991.74**

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	0.08	0.80	0.52	0.00	18.86	0.03	18.88	0.00	0.02	0.03		276.53		0.00		276.61
Vendor	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
Worker	0.17	0.14	1.42	0.00	0.61	0.02	0.64	0.01	0.02	0.03		400.02		0.02		400.36
Total	**0.25**	**0.94**	**1.94**	**0.00**	**19.47**	**0.05**	**19.52**	**0.01**	**0.04**	**0.06**		**676.55**		**0.02**		**676.97**

Appendix B: Biological Resources Memorandum

AECOM
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Memorandum

Date: March 13, 2012

To: Ms. Nancy Chung – LADWP Project Manager

From: Ms. Donna Germann – AECOM, Biologist
Ms. Jeanette Duffels – AECOM, Biologist

Subject: Biological Reconnaissance Survey Report
Los Angeles Reservoir Water Quality Improvement Project

Distribution: Ms. Melissa Hatcher – AECOM, Senior Project Manager

INTRODUCTION

The Los Angeles Department of Water and Power (LADWP) proposes to make improvements to Bull Creek Extension Channel (BCEC), a concrete-lined storm water conveyance and flood control facility located within the Van Norman Complex (VNC) in the Sylmar area of Los Angeles. This project is being undertaken to comply with updated drinking water quality regulations promulgated by the United States Environmental Protection Agency (EPA) and updated requirements related to maintaining the integrity of several VNC water impoundment dams that fall under the jurisdiction of the State of California Division of Safety of Dams (DSOD).

In 2006, the EPA promulgated the final Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) intended to reduce the incidence of disease associated with certain pathogenic microorganisms that have the potential to exist in drinking water. This rule limits the presence of certain protozoan pathogens, especially Cryptosporidium, which cause gastrointestinal illness that can be severe or fatal for sensitive groups such as the elderly, infants, or those with compromised immune systems. The water treatment system currently used at the Los Angeles Aqueduct Filtration Plant at the VNC adequately destroys and/or removes Cryptosporidium protozoa during treatment. However, regardless of this primary treatment, the LT2ESWTR also includes provisions to ensure that uncovered treated water storage facilities, such as Los Angeles Reservoir, are managed to maintain the microbial protection of the treated water they receive before the water is discharged from the storage facilities and enters the distribution system. An important aim of the LT2ESWTR is to limit contamination of drinking water supplies by pathogenic microorganisms potentially contained in surface storm water runoff.

To avoid such contamination in accordance with the LT2ESWTR, the proposed BCEC improvements would remove the Lower Debris Basin as a receptacle for overflow from the channel, thereby eliminating the potential for contaminated storm water to enter Los Angeles Reservoir from the basin via the interconnecting spillway. Instead of entering the Lower Debris Basin, excess storm water flows from BCEC would be rerouted downstream to a new diversion structure that would direct the water into the Lower San Fernando Storm Water Detention Basin, which has a substantially larger storage capacity than the Lower Debris Basin. Typical storm flows not exceeding the capacity of BCEC would continue to be discharged through the channel past the proposed diversion structure and off site, similar to the existing storm drainage flows.

AECOM

This report is intended to describe the existing biological resources of the project site, particularly in the areas of disturbance, and provide recommendations for further action. This report supplements the Biological Resources Assessment (dated October 8, 2009, Revised February 18, 2010) prepared by Michael Brandman Associates (MBA) in support of the Van Norman Complex Water Quality Improvement Project. The Biological Resources Assessment describes conditions present in spring of 2009 and covers a project area larger than the revised project area. AECOM biologists (Donna Germann, Jeanette Duffels) revisited the site on April 28, 2011 and conducted a reconnaissance survey to analyze habitat conditions on site and assure that the 2009 mapping was still valid, and that no major landscape alterations had occurred in the interim. A second survey was conducted on October 7, 2011. This report provides recommendations for mitigation.

PROJECT LOCATION

The VNC is located in Los Angeles County, within the San Fernando Mountain California 7.5-minute United States Geological Survey (USGS) topographic quadrangle. Specifically, VNC is located at 13101 Sepulveda Boulevard in Granada Hills – Knollwood Community of the City of Los Angeles. The VNC consists of approximately 1,340 acres along the west side of Interstate Highway 5 (Golden State Freeway, I-5) and Interstate Highway 405 (San Diego Freeway, I-405). The LADWP-owned property that has been largely cleared and is currently occupied by facilities devoted primarily to the production, storage, and/or transmission of drinking water and electricity or to regional flood control functions. These functions impart a generally industrial character to the property. Other facilities located within the VNC include a Los Angeles Police Department training facility (which includes a driver training track and an indoor shooting range), a Los Angeles Fire Department structure fire training facility, a large green waste recycling facility, and various vehicle storage and construction materials supply yards. Other than an approximately 12-acre area in the southwestern corner of the VNC (along Rinaldi Street) occupied by public gardens and youth baseball fields, the property is inaccessible by the public. The perimeter of the complex is fenced or walled, and 24-hour manned security is provided.

GENERAL SITE DESCRIPTION

The VNC is surrounded by single- and multi-family residential uses along Rinaldi Street to the south, single-family residential uses along Woodley Avenue to the west, the Metropolitan Water District Jensen Water Filtration Plant to the northwest, and the Golden State and San Diego Freeways to the east. Various residential, commercial, and institutional uses lie to the east of the freeways.

Primary flood control facilities at the VNC include the Lower San Fernando Storm Water Detention Basin, which occupies a large portion of the VNC south of the Los Angeles Reservoir. It is confined by the Lower San Fernando Dam, which was the original impoundment dam for the Lower Van Norman Reservoir. A large drain outlet that conveys collected storm water beneath the Lower San Fernando Dam and into the local storm drainage system is located at the southern end of the detention basin. The basin serves as a regional flood control facility capable of accommodating flows from a probable maximum precipitation event in the surrounding area. Several smaller debris basins are located within the VNC, including the Upper and Middle Debris Basins, located along the northwestern perimeter of the property; the Yarnell Debris Basin, located north of the Los Angeles Reservoir; and the Lower Debris Basin, located adjacent to Los Angeles Reservoir to the west. Two large concrete storm water channels located within the VNC convey water through the property and to and from the various on-site debris and detention basins. The East Storm Channel conveys storm water from the area south of the filtration plant along the eastern edge of the Los Angeles Reservoir and discharges into the Lower San Fernando Storm Water Detention Basin. BCEC conveys storm water along the western side of the VNC from the Middle Debris Basin, through the Lower Debris Basin, and eventually off site at the southwest corner of the property.

AECOM

LITERATURE REVIEW

Soils

As discussed in the Biological Resources Assessment, the site contains 12 soil mapping units belonging to the Soper, Saugus, Balcom, Gazos, Capistrano, Chualar, Cropley, and Xerorthents soil series, as well as three mapping units associated with water, dam, and debris basin features (MBA 2010). As there have been no major landscape alterations since the previous literature review in 2009, no changes to the soils analysis are expected.

Sensitive Species

Sensitive plants include those listed as threatened or endangered, proposed for listing, or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) (2011a) or those listed by the California Native Plant Society (CNPS) (2011). Sensitive wildlife species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and CDFG (2011b), or considered special status by CDFG (2011c).

Literature reviews were conducted by MBA and AECOM to determine sensitive plant species, animal species, and vegetation communities with the potential to occur in the project site based upon its geographic proximity to reported occurrences. The California Natural Diversity DataBase (CNDDB) RareFind 3 program (CDFG 2011d) and the CNPS *Inventory of Rare and Endangered Plants* (2011) were reviewed for any information on known occurrences of sensitive species and communities within a 10-mile radius of the project site that included San Fernando, Oat Mountain, Simi Valley East, San Fernando, Mint Canyon, Agua Dulce, Newhall, Canoga Park, Calabasas, Sunland, Burbank, and Van Nuys USGS 7.5-minute topographic quadrangle maps. The CNDDB GIS database (2011) was also used together with ArcGIS software, to confirm the locations of CNDDB records (CDFG 2011e).

Sensitive Plants

A more recent query of the CNDDB (2011) identified 16 sensitive plant species as having the potential to occur in the vicinity of the project based on geographic proximity to known occurrences: Nevin's barberry (*Berberis nevinii*), slender mariposa-lily (*Calochortus clavatus* var. *gracilis*), southern tarplant (*Centromadia parryi* ssp. *australis*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), Plummer's mariposa-lily (*Calochortus plummerae*), Santa Susana tarplant (*Deinandra minthornii*), slender-horned spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), Palmer's grapplinghook (*Harpagonella palmeri*), Coulter's goldfields (*Lastneia glabrata* ssp. coulteri), Davidson's bush-mallow (*Malacothamnus davidsonii*), Piute Maountains naverretia (*Navarretia setiloba*), short-joint beavertail (*Opuntia basilaris* var*. brachyclada),* California Orcutt grass (*Orcuttia californica*), and Greata's aster (*Symphyotrichum greatae*) (CDFG 2011d).

Sensitivity status and general habitat requirements for the species identified during the literature review are provided in Attachment A.

Of these 16 plant species, 9 have been determined to have some likelihood to occur in the project site based on habitat requirements: Nevin's barberry, slender mariposa-lily, San Fernando Valley spineflower, Santa Susana tarplant, slender-horned spineflower, many-stemmed dudleya, Palmer's grapplinghook, Davidson's bush-mallow. In 2009, four sensitive plant species, Nevin's barberry, San Fernando Valley spineflower, slender mariposa lily, and Davidson's bush mallow, were determined to have some likelihood to occur in potentially affected areas of the project site (MBA 2010). Focused surveys for these four species were conducted by MBA in spring of 2009 in suitable habitat areas during their known blooming periods. MBA determined with an acceptable level of confidence that these species did not occur within the area of potential impact. No special status species were detected during these surveys.

AECOM

Sensitive Wildlife

A recent query of the CNDDB (2011) identified 28 sensitive wildlife as having the potential to occur in the vicinity of the project site based on its geographic proximity to known occurrences: monarch butterfly (*Danaus plexippus*), arroyo chub (*Gila orcuttii*), Santa Ana sucker (*Catostomus santaanae*), Santa Ana speckled dace (*Rhinichthys osculus*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), Sierra Madre yellow-legged frog (*Rana muscosa*), coastal western whiptail (*Aspidoscelis tigris stejnegeri*), two-striped garter snake (*Thamnophis hammondii*), silvery legless lizard (*Anniella pulchra pulchra*), southwestern pond turtle (*Emys marmorata*), coast (San Diego) horned lizard [*Phrynosoma coronatum (blainvillii population)*], western spadefoot toad [*Spea (Scaphiopus) hammondii*], Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), southern California rufous crowned sparrow (*Aimophila ruficeps canescens*), burrowing owl (*Athene cunicularia*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), California leaf-nose bat (*Macrotus californicus*), silver-haired bat (L*asionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), southern grasshopper mouse (*Onychomys torridus Ramona*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (CDFG 2011d).

Sensitivity status, general habitat requirements, and probability of occurrence within the project site for the species identified during the literature review are provided in Attachment A.

In 2009, MBA determined two special status wildlife species, coastal California gnatcatcher and least Bell's vireo, to have some likelihood to occur in potentially affected areas of the project site. Results of a recent query of the CNDDB (2011) and current habitat conditions within the project site are consistent with this determination (CDFG 2011d). No other special status wildlife species are likely to occur on-site, and are therefore excluded from further discussion.

The coastal California gnatcatcher is listed as a federally threatened species and California State species of special concern. The coastal California gnatcatcher is a species with restricted habitat requirements, being an obligate resident of coastal sage scrub habitats that are dominated by coastal sagebrush and generally occur below 750 feet in elevation in coastal regions and below 1,500 feet inland (Atwood and Boisinger, 1992). It ranges from Ventura County south to San Diego County and northern Baja California. It is less common in coastal sage scrub with a high percentage of tall shrubs such as laurel sumac, preferring as habitat more low-growing vegetation. Coastal California gnatcatchers breed between mid-February and the end of August, with the peak of activity from mid-March to mid-May. Declines are attributed to loss of coastal sage scrub habitat through development, and there is some evidence of cowbird nest parasitism.

Suitable habitat for coastal California gnatcatcher occurs within the northern and western portion of the VNC. Protocol presence/absence surveys for coastal California gnatcatcher were conducted by MBA in April and May 2009 in coastal sage scrub habitat with potential to be affected by the project. The survey findings concluded that no coastal California gnatcatchers occurred within the project site and the species was presumed to be absent.

The least Bell's vireo is a State and Federally endangered, migratory bird that nests within low, dense riparian growth along water or along dry parts of intermittent streams. Nests are placed along margins or on projecting twigs of willow, mulefat, and mesquite trees and shrubs. Declines are attributed to loss of riparian habitat through development, and there is evidence of cowbird nest parasitism. The species was previously recorded as occurring within Bull Creek on the northern portion of the project site, most likely within the portion mapped as southern cottonwood-willow riparian forest.

Suitable habitat for least Bell's vireo occurs within the southern cottonwood-willow riparian forest and southern willow scrub portions of the project site. The riparian scrub plant community on the project site is too open and sparse to be considered suitable habitat for the species. The species was not observed during any of the surveys conducted by MBA; however, no focused surveys for the species were conducted as part of this survey effort (MBA 2010).

Sensitive Plant Communities

Sensitive habitats are those that are regulated by USFWS, U.S. Army Corps of Engineers, and/or those considered sensitive by the CDFG.

Nine sensitive plant communities were identified by the CNDDB as occurring in the vicinity of the project: California walnut woodland, Riversidian alluvial fan sage scrub, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, and valley oak woodland (CDFG 2011d).

Three of the nine sensitive plant communities identified by the CNDDB occur on the project site: southern cottonwood-willow riparian forest, (southern) riparian scrub, and southern willow scrub. Descriptions of these plant communities are provided below along with the other plant communities and cover types identified on the project site.

The mapping conducted by MBA identified ten habitat types/plant communities within the project site (Figure 1): developed\actively disturbed, coastal sage scrub, water, ruderal, non-native grassland, southern-cottonwood willow riparian forest, riparian scrub, ornamental grove, southern willow scrub, and freshwater cattail marsh. AECOM observations were consistent with the habitats identified in the BRA (MBA 2010). The names and definitions of vegetation communities discussed below are based primarily on Holland's (1986) natural communities classification system, with influence from MBA's field interpretations. Below is a summary, adapted from the Biological Resources Assessment, of the each habitat type/plant community within the VNC that may be removed or temporarily disturbed due to the proposed project.

Developed/Actively Disturbed

The VNC property is developed for use as a water storage, treatment, and transport facility, and various buildings and structures occur throughout the project site to support these functions. These areas are classified as developed/actively disturbed. Open areas subject to significant disturbance, such as frequently used dirt roads or active grading areas, are also included in this designation because both developed and actively disturbed areas contain very little vegetation and provide little to no habitat value.

Coastal Sage Scrub

Coastal sage scrub habitat is defined by a sparse to dense arrangement of low-growing, drought-deciduous, and evergreen shrubs, typically occupying steep and gentle slopes below 3,000 feet in elevation, and ranging throughout southern California and south into Baja California. This community is typically located on sites with low moisture availability, such as steep, xeric slopes or clay-rich soils that release stored moisture slowly. It intergrades at higher elevations with more mesic sites with Chaparral communities and with Riversidean sage scrub in drier inland areas. This community is dominated by drought-deciduous, low-growing native shrubs averaging 2 to 3 feet in height, and is characterized by an herbaceous understory typically consisting of non-native grasses and forbs. Because of its function as valuable wildlife habitat for both common and special-status plant and animal species, and because of its declining quantity in the state, coastal sage scrub is generally considered to be of special status by CDFG.

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The coastal sage scrub plant community occurs in large stands throughout the project site. The majority of the stands are well established and exhibit dense shrub cover. These stands include those located due south of Los Angeles Reservoir, which are generally monotypic stands of brittlebush (*Encelia farinosa*), and the stands located along the western and the southern boundaries of the project site, which contain a high diversity of shrub species, including California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), deerweed (*Lotus scoparius*), and Mexican elderberry (*Sambucus mexicana*). The smaller stands of coastal sage scrub located north and east of the reservoir are the sparse, heavily disturbed stands of the community. The vegetative cover in these stands consist of brittlebush, California buckwheat, caterpillar phacelia (*Phacelia cicutaria*), but a significant percentage is also comprised of ruderal plant species, such as tocalote (*Centaurea melitensis*), black mustard (*Brassica nigra*), and fennel (*Foeniculum vulgare*). The dense, diverse stands of coastal sage scrub along the western and the southern site boundaries provide good quality habitat for wildlife species common to this habitat. Such species include California towhee (*Pipilo crissalis*) and western whiptail (*Cnemidophorus tigris*). The stands comprised predominantly of brittlebush provide a lower quality habitat to many wildlife species as a result of the limited plant diversity present. The sparse stands of coastal sage scrub east and north of the active reservoir provide the lowest quality of habitat due to the frequency of disturbances and the dominant presence of ruderal plant species.

Water

Areas classified as water habitat contain no vegetation above the water line and typically are completely inundated with water year-round. Factors affecting the habitat value of such areas include water quality, accessible sediment, size of the water body, and vegetation adjacent to the water body. Several different bodies of water occur within the project site. The first and most prominent is the LAR located in the center of the project site. This water body is vastly large with good water quality, but is contained by steep, cement lining on the shores and does not support any adjacent vegetation. Additionally, the water in the LAR is used for drinking water so fish and aquatic plant species are excluded from occurring within it. The size of the LAR provides suitable layover habitat for migratory birds; however, no foraging or nesting habitat is available for these species or any other aquatic species. Several pools and channels have been artificially created northwest of the LAR. These artificial pools are frequently filled, drained, and graded as part of the functions of the VNC facilities. Due to these heavy disturbances, the pools or channels are not considered suitable habitat for most wildlife species, however, migrating waterfowl species may attempt to utilize the pools as lay over areas during periods of no disturbance.

Ruderal

Ruderal habitat includes areas predominantly comprised of weedy plant species. Such species are hardy, opportunistic plant species that typically are the first plants to sprout in a recently disturbed area that was cleared of all vegetation or where the soil compaction significantly limits the native species that may grow otherwise. Many ruderal plant species populations are also known for displacing native plant communities due to their aggressive growth habits.

Ruderal habitat occurs across the project site. However, all of the disturbances to ruderal habitat will occur in the eastern and southern portions of the project site during the first phase, totaling approximately 83 acres. Vegetation composition among the different stands is variable, as some areas mapped are sparsely vegetated with compact soils, while others are monotypic stands of invasive plant species. Many of the same plant species, however, occur in most of these areas. The species observed include prickly lettuce (*Lactuca serriola*), black mustard, fennel, horehound (*Marrubium vulgare*), rattlesnake weed (*Chamaesyce albomarginata*), wild radish (*Raphanus sativus*), Asian mustard (*Brassica tournefortii*), milk thistle (*Silybum marianum*), Russian thistle (*Salsola tragus*), tocalote, island false bindweed (*Calystegia macrostegia*), sweet yellow clover (*Melilotus officinalis*), castor bean (*Ricinus communis*), tree of heaven (*Ailanthus altissima*), giant reed (*Arundo*

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donax), and tree tobacco (*Nicotiana glauca*). Some native species were also observed in these areas. These include clustered tarweed (*Hemizonia fasciculata*), Great Valley gumplant (*Grindelia camporum*), telegraphweed (*Heterotheca grandiflora*), horseweed (*Conyza canadensis*), and California figwort (*Scrophularia californica*).

Habitat quality within the onsite ruderal habitat is considered poor based on the lack of overall vegetative cover and overall disturbance. Some of the stands may provide suitable habitat for common small mammals and reptiles, such as North American deermouse (*Peromyscus maniculatus*) and western fence lizard (*Sceloporus occidentalis*). Disturbance factors and lack of suitable habitat strongly reduce the potential for many wildlife species to use these areas.

Non-native Grassland

Non-native grassland is described as a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include brome (*Bromus* sp.), wild oats (*Avena* sp.), fescue (*Vulpia* sp.), and barley (*Hordeum* sp.). Non-native grassland occupies the majority of the project site. Some of the dominant species observed across the site consist of compact brome (*Bromus madritensis*) and slender oats (*Avena barbata*). Non-native forbs, including tocalote, black mustard, and red-stemmed stork's bill (*Erodium cicutarium*), were also prevalent species that occurred across the community. Despite being comprised of non-native plant species, the non-native grassland plant community has been established within the United States for many generations and is considered by many to be a naturalized plant community. As such, it provides moderately suitable habitat for common, native bird species, such as horned lark (*Eremophila alpestris*), and reptile species, such as western rattlesnake (*Crotalus helleri*).

Southern-Cottonwood Willow Riparian Forest

Southern cottonwood-willow riparian forest is characterized by a tall, open, broad-leafed winter-deciduous riparian forest typically dominated by mature Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), Goodding's willow (*Salix gooddingii*), and other developed emergent willow species. The understory of this community is typically dominated by less mature willows and mulefat (*Baccharis salicifolia*) shrubs, in addition to herbaceous species that include giant creek nettle (*Urtica dioica*), mugwort (*Artemisia douglasiana*), phacelia (Phacelia spp.), curly dock (*Rumex crispus*), and wild grape (*Vitus californica*) among others. These communities are associated with sub-irrigated and frequently overflowed lands along rivers and streams. Dominant species require moist, bare mineral soil for germination and establishment, which is provided after flood waters recede, leading to uniform-aged stands. The distribution of this community includes perennially wet stream reaches of the Transverse and Peninsular ranges, from Santa Barbara County, south to Baja California, and east into the desert regions.

Three stands of southern cottonwood-willow riparian forest occur on the project site. The first is located along the northwestern boundary and is associated with Bull Creek. The second stand is located in an isolated basin just north of Los Angeles Reservoir. The third area comprises the expansive riparian area south of Los Angeles Reservoir in the Lower San Fernando Storm Water Detention Basin. The dominant plant species that occur within these stands include Fremont cottonwood, Goodding's willow, and narrowleaf willow (*Salix exigua*). Other species observed include tall flatsedge (Cyperus eragrostis), cocklebur (*Xanthium strumarium*), mugwort, western ragweed (*Ambrosia psilostachya*), curly dock, and small-flowered tamarisk (Tamarix parviflora). Habitat quality of the southern cottonwood-willow riparian forest onsite is considered moderate. All three stands receive and store significant amounts of water above and below ground; however, they are all subject

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to heavy noise disturbances, which may reduce nesting habitat for avian species. The stand along Bull Creek is bordered on both sides by dirt access roads, the stand north of the active reservoir is adjacent to I-5, and the expansive stand south of the active reservoir is directly adjacent to the helipad and LAPD training facilities. The stand south of Los Angeles Reservoir would especially be considered good quality habitat if the noise disturbances associated with helicopters and firearms were not present. Regardless, the southern cottonwood-willow riparian forest stands provide suitable habitat for common riparian species, such as common yellowthroat (*Geothlypis trichas*) and northern raccoon (*Procyon lotor*).

Riparian Scrub

Riparian scrub habitat is characterized as disturbed areas with scattered or emergent, native riparian shrubs. The habitat is an upland-riparian transitional area that is generally associated with an adjacent water feature. The riparian scrub community on the project site is associated with heavy soil disturbance or soil compaction. The communities on site are located adjacent to the expansive riparian feature in the south, and within and adjacent to Bull Creek in the north. A small stand of riparian scrub also occurs within the upland non-native grassland area along the western boundary of the project site; however, this is not associated with any drainage or water feature. All the stands contain sparse vegetation but the dominant plant species present is mulefat. Several other, disturbance-tolerant plant species also commonly occur with the community, including common sunflower (*Helianthus grandiflora*), brittlebush, tree tobacco, giant reed, and Russian thistle. Sparse occurrences of willow (*Salix* sp.) saplings were also observed within the stand along Bull Creek. The stand at Bull Creek is subject to soil disturbance associated with high water flows that seasonally occur within the creek. The stand adjacent to the expansive riparian area is subject to soil disturbance associated with grading and heavy equipment use in the vicinity. The stand along the western boundary of the site is subject to disturbance associated with fuel reduction activities, such as mechanical mowing. The habitat quality of riparian scrub areas is low due to the sparse, disturbed nature of the community. The sparse vegetation generally does not provide sufficient cover for wildlife species to nest or to forage safely.

Ornamental Grove

Ornamental grove habitat includes areas occupied by a variety of non-native and native, mature trees species artificially planted and maintained. Such habitats are generally limited in size and are subject to regular landscaping activities. Areas characterized as ornamental grove habitat typically include landscaped parks, residential developments, and road rights-of-way, or areas planted for screening or as windrows. Ornamental grove areas are scattered across the project site but are generally associated with nearby development, such as the power substations on the northern and southern portions of the site. The tree species observed include pine (*Pinus* sp.), Peruvian pepper (*Schinus molle*), and cork oak (*Quercus suber*). The understory is generally comprised ornamental shrub species, such as rosemary (*Rosmarinus officinalis*) and oleander (*Nerium oleander*). The tree species commonly planted in ornamental grove habitats are generally much taller than common native tree species in the area. Therefore, this community provides suitable perching opportunities for common raptor species, such as red-tailed hawk (*Buteo jamaicensis*), and nesting opportunities for common bird species, such as European starlings (*Sturnus vulgaris*). This habitat may also provide roosting habitat for bat species.

Southern Willow Scrub

Southern willow scrub communities are characterized by dense, broad-leafed, winter-deciduous riparian thickets of vegetation, and are dominated by several species of willow tree. Scattered arrow weed (*Pluchea sericea*), Fremont cottonwood and isolated western sycamore (*Platanus racemosa*) are also associated with this community. Most stands are too dense to allow much understory development. Southern willow scrub is typically found on loose, sandy, or fine gravelly alluvium deposits near stream channels during flood flows. This early seral-type vegetation requires repeated

flooding to prevent succession to southern cottonwood-sycamore riparian forest. Formerly extensive along the major rivers of coastal southern California, this community is now much reduced by urban expansion, flood control, and channel improvements.

Stands of southern willow scrub are scattered throughout the northern portion of the project site. The most continuous stand is associated with Bull Creek and is located along the northwestern boundary of the project site. This stand is bordered by the riparian scrub plant community to the north and the coastal sage scrub plant community to the south. The scattered remaining stands are associated with small, ephemeral drainages that run through the heavily-disturbed areas frequently used by heavy equipment. These stands are mostly narrow and intermittent, and comprise very poor quality habitat. The dominant species observed in the collective southern willow scrub stands include Goodding's willow, arroyo willow (*Salix lasiolepis*), and mulefat. Other species commonly observed include castor bean (*Ricinus communis*), cocklebur, giant reed, and tree tobacco.

The habitat quality of the most continuous stand of southern willow scrub is moderate, despite its limited size. This is a result of minimal disturbance to this area and the connectivity to even higher quality stands of riparian habitat upstream. This stand can provide suitable nesting and foraging habitat for riparian bird species, such as common yellowthroat. The other, scattered stands of southern willow scrub comprise very poor quality habitat as a result of their small size and the proximity of regular disturbances.

Freshwater Cattail Marsh

Freshwater cattail marsh commonly occurs in shallow, perennially wet areas with emergent vegetation dominated by cattail (*Typha* spp.). Cattails are a hardy, tall growing grass that can reach between 5 and 10 feet in height. For that reason, cattails generally outcompete other wetland plant species and dominate the open water space. Freshwater cattail marsh is located on two portions of the project site. The first is at a water outflow point in a low elevation portion west of the active reservoir. This area is small and is surrounded by a non-native grassland plant community.

The second location is within the expansive riparian area south of Los Angeles Reservoir, where the open water is shallow enough to support cattails. The vegetation in both locations is predominantly comprised of narrowleaf cattail (*Typha angustifolia*). Other species observed include curly dock, tall flatsedge (*Cyperius eragrostis*), and water smartweed (*Polygonum amphibium* var. *stipulaceum*). Freshwater cattail marsh provides habitat suitable to wildlife species common in wetland areas, such as red-winged blackbird (*Agelaius phoeniceus*).

RECOMMENDATIONS

Sensitive Plants

The project site contains several natural habitats suitable for some sensitive plant species. Directed survey results for sensitive plant species were negative in 2009 (MBA 2010). Therefore, the potential to impact sensitive plant species is considered low.

Sensitive Wildlife

MBA conducted a focused protocol-level survey for coastal California gnatcatcher in 2009 (MBA 2010). No coastal California gnatcatcher was observed or detected during any of the surveys. Least Bell's vireo is a federally and State endangered species and has potential to occur in the northern portion of the VNC. However, the species was not observed during MBA's 2009 surveys or AECOM's 2011 surveys. Therefore, the potential to impact sensitive wildlife species is considered low.

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Sensitive Plant Communities

Because of its high biological value and declining nature in California, impacts to coastal sage scrub may require permitting from CDFG and mitigation. In addition, impacts to southern cottonwood-willow riparian forest, (southern) riparian scrub, and/or southern willow scrub would require mitigation. Appropriate mitigation would be determined in cooperation with CDFG and may include avoidance, creation or preservation of habitat elsewhere in the project site, or other measures.

Migratory Birds

Congress passed the Migratory Bird Treaty Act (MBTA) in 1918 to prohibit the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the United States and Great Britain, the United States and Mexico, the United States and Japan, and the United States and Russia. Although no permit is issued under the MBTA, if construction or vegetation removal within the project area occurs during the breeding season for raptors and migratory birds (February 15 through September 15), USFWS requires that surveys be conducted to locate active nests within the construction area. The project must comply with the MBTA.

The project site contains suitable habitat for various species of migratory birds. Examples of suitable habitat include, but are not limited to, shrubs, trees, bridges, and electric towers. Should removal of vegetation, bridges, or electric towers occur during the breeding season for migratory non-game native bird species (February 15 through September 15), weekly bird surveys should be performed to detect any protected native birds in vegetation to be removed or other suitable nesting habitat. The surveys would commence 30 days prior to the disturbance of suitable nesting habitat by a qualified biologist with experience in conducting nesting bird surveys. The surveys would continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. If an active nest is discovered, disturbance within a buffer area surrounding the nest site shall be prohibited until nesting is complete; the buffer distance shall be determined by the biological monitor in consideration of species sensitivity and existing nest site conditions. Construction clearance/disturbance shall be halted in the vicinity of the active nest until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel should be instructed on the sensitivity of the area.

Electric towers associated with transmission lines also provide suitable nesting habitat for raptor species within the project site. Nests within lattice towers are easily observable due to the large size of raptor nests and the transparency of lattice tower design. Therefore, if construction activities must occur on or adjacent to a lattice tower during the avian nesting season, and a nest is observed by any construction personnel, all construction activities in the vicinity must be halted until a qualified biologist verifies the status of the nest. If the nest is determined to be active, then all activities on or adjacent to the tower shall only proceed at the discretion of the biologist. If the nest is determined to be inactive by the biologist, then no further measures are required.

Wetlands

The Clean Water Act governs pollution control and water quality of waterways throughout the U.S. Its intent, in part, is to restore and maintain the biological integrity of the nation's waters. The goals and standards of the Clean Water Act are enforced through permit provisions. Sections 401 and 404 of the Clean Water Act pertain directly to the proposed project. Section 401 requires certification from the Regional Water Quality Control Board that the proposed project is in compliance with established water quality standards. Section 404 of the Clean Water Act requires an individual or general permit from the U.S. Army Corps of Engineers for discharge into "waters of the U.S."

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California Fish and Game Codes regulate the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. It includes the California Endangered Species Act (Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600-1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. Any proposed impact to state-listed species or state jurisdictional waters within or adjacent to the proposed project site would require a permit under the California Endangered Species Act and a Streambed Alteration Agreement from CDFG, respectively.

Under Sections 1600-1617 of the California Department of Fish and Game Code, CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFG jurisdiction are defined in the code as the "bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." The California Code of Regulations (14 CCR 1.72) defines a stream as:

> "[A] stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

In practice, CDFG usually extends its jurisdictional limit to the top of a stream or lake bank, or outer edge of the riparian vegetation, whichever is wider. Riparian habitats do not always have identifiable hydric soils, or clear evidence of wetland hydrology as defined by the U.S. Army Corps of Engineers. Therefore, CDFG wetland boundaries often extend beyond U.S. Army Corps of Engineers wetland boundaries, which sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Jurisdictional boundaries under Sections 1600-1607 may encompass an area that is greater than that under the jurisdiction of Section 404 (Cylinder et al. 1995).

A jurisdictional delineation of the project area was not conducted as part of surveys conducted by MBA and AECOM. The proposed project would require installation of a couple of stream crossings of the BCEC. Therefore, the proposed project would be required to obtain appropriate permitting from the appropriate regulatory agencies. This may include a Nationwide Permit from USACE, a Water Quality Certification from RWQCB, and a Streambed Alteration Agreement from CDFG. These permits will include special conditions to further minimize and mitigate project impacts. In addition, portions of the Lower San Fernando Storm Water Detention Basin may contain hydric soils consistent with the definition of a wetland. No direct disturbance of this area is anticipated during construction. However, indirect impacts may occur. Therefore, Best Management Practices should be employed during construction to assure that no discharge of debris, soil, sand, construction waste, cement or concrete washings, asphalt, paint, oil, or other harmful substances occurs in any potential nearby drainages. None of these materials should be placed where they may runoff into potential jurisdictional areas. Clean-up of all spills should begin immediately. Stationary heavy equipment such as motors, generators, and welders should not be placed in potential jurisdictional areas and should have suitable containment to handle a catastrophic spill or leak.

Wildlife Corridors

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two comparatively undisturbed habitat fragments, or between a habitat fragment and some vital resources thereby encouraging population growth and diversity. Habitat fragments are isolated patches of habitat separated by otherwise foreign or inhospitable areas, such as urban/suburban tracts, agricultural lands, or highways. Habitat fragments can isolate species populations by limiting migration, foraging, and breeding opportunities.

Isolation of populations can have many harmful effects and may contribute significantly to local species extinction.

Two types of wildlife migration corridors seen in urban settings are regional corridors, defined as those linking two or more large areas of natural open space, and local corridors, defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. Wildlife migration corridors are essential in geographically diverse settings, and especially in urban settings, for the sustenance of healthy and genetically diverse animal communities. At a minimum, they promote colonization of habitat and genetic variability by connecting fragments of like habitat and help sustain individual species distributed in and among habitat fragments. They are also important features for dispersal, seasonal migration, foraging, and breeding.

A viable wildlife migration corridor consists of more than a path between fragmented habitats. A wildlife migration corridor must also include adequate vegetative cover and food sources for transient species as well as resident populations of less mobile animals to survive. They must be extensive enough to allow for large animals to pass relatively undetected, be free of obstacles, and lack any other distraction that may hinder wildlife passage such as lights or noise.

The project site is bordered to the west, east, and south by expansive, continuous tracts of development. Areas within the project site, however, may contain large areas of habitat for wildlife species. Specifically, the project site provides suitable nesting habitat for migratory and resident bird populations, but does not act as part of a major contiguous linkage between two or more large areas of open space. Due to significant levels of disturbances from existing land uses and complete perimeter fencing, the likelihood of the project site to be used as a wildlife corridor is low. Therefore, any impacts that would occur to potential wildlife corridors would be less than significant and no mitigation is recommended.

Protected Trees

The VNC contains trees under the protection of the City of Los Angeles, such coast live oak. Additional tree surveys in support of permits or an exemption from the Los Angeles Board of Public Works for relocation or removal of any protected trees are required. Section 17.02 of the Los Angeles Municipal Code protects the following southern California native tree species, which measures four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree:

(a) Oak trees including Valley Oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (*Quercus dumosa*).
(b) Southern California Black Walnut (*Juglans californica* var. *californica*)
(c) Western Sycamore (*Platanus racemosa*)
(d) California Bay (*Umbellularia californica*)

Relocation or removal of any protected trees is prohibited without a permit or exemption from the Los Angeles Board of Public Works or its designated officer or employee.
As currently planned, the proposed project is not anticipated to remove protected tree species. Should it be necessary during project construction to remove protected trees, a tree assessment shall be conducted by a certified arborist to determine the number, size, health, and other characteristics obligatory for the obtainment of permitting and mitigation for their removal. A report of these characteristics must be approved before a permit to remove protected trees is granted. The arborist shall identify any tree protected by City Ordinance(s) and shall provide further recommendations. If no

trees are anticipated for removal or none of the proposed trees are identified as protected, then no further action is necessary.

Habitat Conservation Plans

The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There are no adopted habitat conservation plans applicable to the VNC property due to its highly industrialized nature, nor is it located near a Natural Communities Conservation Plan area or Significant Ecological Area. The project site does not contain any Significant Ecological Areas or designated Critical Habitat. No action is necessary, therefore, with regard to Habitat Conservation Plans.

Habitat Restoration, Mitigation and Monitoring Plan

Because project construction would require the removal of sensitive vegetation communities, it is recommended that a Habitat Restoration, Mitigation, and Monitoring Plan (Mitigation Plan) be prepared as part of the proposed project. The Mitigation Plan shall incorporate all the terms and conditions set forth in the various permits, certifications, and agreements issued by the appropriate jurisdictional agencies and should be prepared by a qualified habitat restoration biologist. The Mitigation Plan would include, at minimum, a planting palette, planting plans, monitoring requirements, and success criteria.

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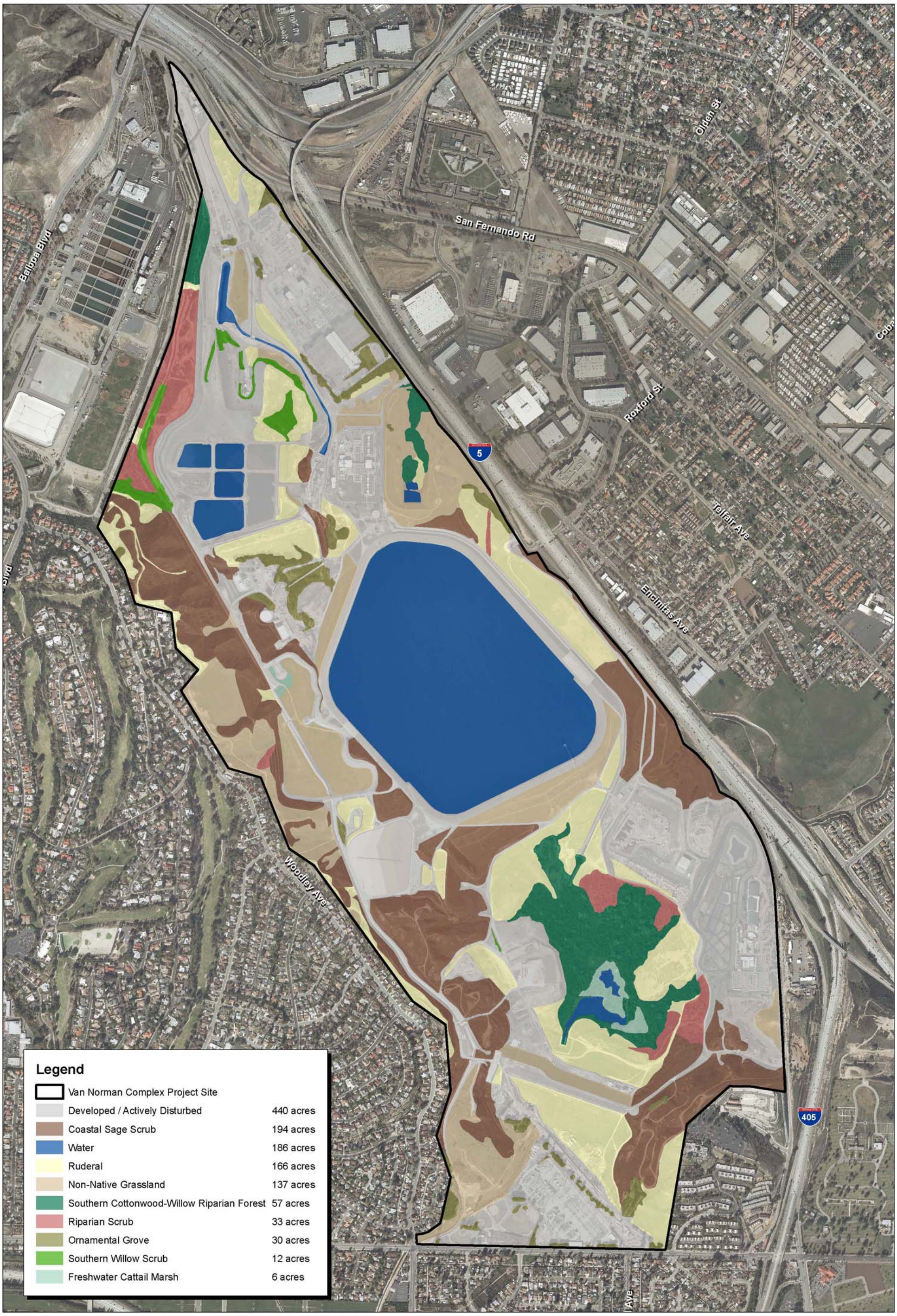

Source: Eagle Aerial, 2009. MBA Field Survey and GIS Data, 2009.

Figure 1
Van Norman Complex Vegetation and Cover Types

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ATTACHMENT A. SENSITIVE PLANTS AND ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT

Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
Plants			
Nevin's barberry *Berberis nevinii*	USFWS: Endangered CDFG: Endangered CNPS: 1B.1	Associated with chaparral, cismontane woodland, coastal scrub, riparian scrub. Occurs on steep, north-facing slopes or low grade sandy washes. Elevation 290-1,575 m (950-5,200 ft.). Blooms March-June.	**Low.** The site contains scrub vegetation on steep well-drained soils; however, 2009 surveys did not detect this perennial plant on site. The species is recorded 4 miles east of the site
slender mariposa-lily *Calochortus clavatus* var. *gracilis*	USFWS: None CDFG: None CNPS: 1B.2	Associated with chaparral, coastal scrub. Known to occur in shaded foothill canyons, often on grassy slopes within other habitat. Elevation 420-760 m (1,380-2,500 ft.). Blooms March-June.	**Low**. The site contains open shrubby habitat, however, 2009 surveys did not detect this species on site. The species was recorded 2 miles north of the site.
Plummer's mariposa-lily *Calochortus plummerae*	USFWS: None CDFG: None CNPS: 1B.2	Associated with coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material, and can be very common after a fire. Elevation 90-1,610 m (295-5,280 ft.). Blooms May-July.	**Low.** The site contains coastal scrub vegetation; however, 2009 surveys did not detect this species on site. This species was recorded 1, 2.5, and 6.5 miles northeast of the site. Several locations are also known from 6 miles north of the site as well as 4 miles east and 8 miles southeast of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
southern tarplant *Centromadia parryi* ssp. *australis*	USFWS: None CDFG: None CNPS: 1B.1	Associated with marshes and swamps (margins), valley and foothill grassland. Occurs often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Elevation 0-427 m (0-1,400 ft.). Blooms May-November.	**Not expected.** The site does not contain suitable habitat for this species. This species was recorded approximately 10 miles east of the site.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	USFWS: Candidate CDFG: Endangered CNPS: 1B.1	Associated with coastal scrub. Occurs in sandy soils. Elevation 3-1,035 m (9-3,375 ft.). Blooms April-July.	**Low.** The site contains some openings in the shrubby vegetation. The species was recorded on the project site in the early 1900s, and the site has been significantly developed and has changed dramatically. No other local occurrences have been recorded. 2009 surveys did not detect this species on site.
Santa Susana tarplant *Deinandra minthornii*	USFWS: None CDFG: Rare CNPS: 1B.2	Associated with chaparral, coastal scrub. Known to occur on sandstone outcrops and crevices in shrubland. Elevation 280-760 m (924-2,500 ft.). Blooms July-November.	**Low.** The site contains moderately suitable habitat, however 2009 surveys did not detect this species on site Over 10 occurrences of this species were recorded 7 miles southwest of the site.
slender-horned spineflower *Dodecahema leptoceras*	USFWS: Endangered CDFG: Endangered CNPS: 1B.2	Associated with chaparral, coastal scrub, alluvial fan sage scrub. Occurs in flood deposited terraces and washes; associations include *Encelia*, *Dalea*, *Lepidospartum*, etc. Elevation 200-760 m (660-2,500 ft.). Blooms April-June.	**Moderate**. The site contains coastal sage scrub and *Encelia*; however,, 2009 surveys, did not detect this species on site. This species was recorded 5 miles east, 9 miles southeast, and 6 miles northeast of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
many-stemmed dudleya *Dudleya multicaulis*	USFWS: None CDFG: None CNPS: 1B.2	Associated with chaparral, coastal scrub, valley and foothill grassland. Occurs in heavy, often clayey soils or grassy slopes. Elevation 0-790 m (0-2,610 ft.). Blooms April-July.	**Low.** The site contains moderately suitable habitat; however, 2009 surveys did not detect this species on site. This species was recorded 10 miles southwest of the site.
Palmer's grapplinghoook *Harpagonella palmeri*	USFWS: None CDFG: None CNPS: 4.2	Associated with clay soils and open grassy areas with shrubland. Known to occur in chaparral, coastal scrub, and valley and foothill grasslands. Elevation 15-830 m (50-2,725 ft.) Blooms March-May.	**Low.** The site contains moderately suitable habitat; however, 2009 surveys did not detect this species on site. This species was recorded 6 miles northwest of the site.
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	USFWS: None CDFG: None CNPS: 1B.2	Associated with alkaline soils in playas, sinks and grasslands. Known to occur in coastal salt marshes, playas, valley and foothill grasslands and vernal pools. Elevation 1-1400 m (3-4,600 ft.) Blooms February-June.	**Not expected.** The site does not contain suitable habitat for this species. This species was recorded 8 miles southwest of the site.
Davidson's bush-mallow *Malacothamnus davidsonii*	USFWS: None CDFG: None CNPS: 1B.2	Associated with coastal scrub, riparian woodland, chaparral. Occurs in sandy washes. Elevation 180-855 m (590-2,825 ft.). Blooms June-January.	**Low.** The area of disturbance does not contain any sandy washes, but marginally suitable habitat occurs in the shrubby habitat on well-drained soils in other parts of the VNC. Further, 2009 surveys did not detect this perennial plant on site. Eleven occurrences of this species have been recorded within 10 miles of the site. The closest occur 1 and 2 miles northeast and east of the site, respectively.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
Piute Mountains navarretia *Navarretia setiloba*	USFWS: None CDFG: None CNPS: List 1B.1	Cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland in clay or gravelly loam. Occurs from 305–2,100 me (1000-6,889 ft.). Blooms April-July.	**Not Expected.** The site does not contain suitable habitat for this species. This species was recorded 10 miles northeast of the site.
short-joint beavertail *Opuntia basilaris* var. *brachyclada*	USFS: Sensitive CDFG: None CNPS: List 1B.2	Sandy soils or granitic loam in chaparral, joshua tree "woodland" mojavean desert scrub, pinyon and juniper woodland. Blooms April to June.	**Not Expected.** The site does not contain suitable habitat for this species. This species was recorded 5 miles north of the site.
California Orcutt grass *Orcuttia californica*	USFWS: None CDFG: None CNPS: 1B.1	Associated with vernal pools at elevations of 15 – 660 m (50-2,165 ft.) Blooms April-August.	**Not expected.** The site does not contain suitable habitat for this species. This species was recorded 6 miles northwest of the site.
Greata's aster *Symphyotrichum greatae*	USFWS: None CDFG: None CNPS: 1B.3	Associated with chaparral and cismontane woodland; known from mesic canyons. Elevation 800-1,500 m (2,600-4,900 ft.). Blooms June-October.	**Not Expected.** The site does not contain suitable habitat for this species. This species was recorded 5 miles northeast of the site.
Invertebrates			
monarch butterfly *Danaus plexippus*	USFWS: None CDFG: None –	Roosts located in wind-protected tree groves such as Eucalyptus, Monterey pine, and cypress, with nearby nectar and water resources. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	**Not Expected.** Wind-protected tree groves do not occur within the project site. The species was recorded 2 miles west of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
Fish			
Santa Ana sucker *Catostomus santaanae*	USFWS: Threatened CDFG: None	Endemic to south coastal streams in the Los Angeles basin, this species is a habitat generalist, but prefers sand-rubble-boulder bottoms with cool, clear water and algae.	**Not Expected**. Stream habitat required by this species does not occur within the project site. This species was recorded 7 miles east of the site.
arroyo chub *Gila orcuttii*	USFWS: None CDFG: Species of Special Concern	Native to streams from maluvu Creek to San Luis rey river basin, and has been introduced to streams in Santa Clara, Ventura and Santa Ynez. Found in slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**Not Expected.** Stream habitat required by this species does not occur within the project site. This species was recorded from the Santa Clara River, 7 miles north of the site.
Santa Ana speckled dace *Rhinichthys osculus*	USFWS: None CDFG: Species of Special Concern	Known from headwaters of the Sana Ana and San Gabriel River. It may be extirpated from the Los Angeles River system. This species requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow covvle and gravel riffle.	**Not Expected.** Stream habitat required by this species does not occur within the project site. This species was recorded 7 miles east of the site.
unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	USFWS: Endangered CDFG: Endangered	Slow-moving sections of freshwater or brackish water stream habitat with protective cover. Optimal cover may include vegetation and filamentous algae, but any natural shelter (rocks, logs, stream banks) is sufficient.	**Not Expected.** Stream habitat required by this species does not occur within the project site. This species was recorded from the Santa Clara River, 7 miles north of the site.
Amphibians			
Sierra Madre yellow-legged frog *Rana muscosa*	USFWS: Endangered CDFG: Species of Special Concern	Federal listing refers to populations in the San Gabriel, San Jacinto, and San Bernardino mountains only. This species is always encountered within a few feet of water. Tadpoles may require 2-4 years to complete their aquatic development.	**Not Expected.** Aquatic habitat required by this species does not occur on site. This species was recorded approximately 9 miles east of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
Reptiles			
coastal western whiptail *Aspidoscelis tigris stejnegeri*	USFWS: None CDFG:CNDDB	Found in deserts and semiarid areas with sparse vegetation and open areas; also found in woodland and riparian areas; ground may be firm soil, sandy or rocky.	**Low.** Non-native grassland habitat within the project site contains suitable habitat. The species was recorded as occurring 7 miles north of the site and 4 miles northeast of the site before urban development occurred.
silvery legless lizard *Anniella pulchra pulchra*	USFWS: None CDFG: Species of Special Concern	Inhabits sandy or loose loamy soils under sparse vegetation. Soil moisture is essential, and they prefer soils with high moisture content.	**Not Expected.** Suitable habitat containing sandy soil with high moisture content, as preferred by this species, does not occur within the project site. The species was recorded 7 miles east of the site.
southwestern pond turtle *Emys marmorata*	USFWS: None CDFG: Species of Special Concern	Inhabits permanent or nearly permanent bodies of water in many habitat types with aquatic vegetation; Below 6000 feet elevation; Require basking sites such as partially submerged logs, vegetation Mats, or open mud banks; need suitable nesting sites.	**Not Expected.** Aquatic habitat required by this species does not occur on site. This species was recorded approximately 8 miles southeast of the site.
coast (San Diego) horned lizard *Phrynosoma coronatum (blainvillii population)*	USFWS: None CDFG: Species of Special Concern	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions; prefers friable, rocky or shallow sandy soils.	**Low.** The sage shrub habitat within the project site contains suitable habitat for the species. The species was recorded as occurring 5 miles south of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
western spadefoot toad *Spea (Scaphiopus) hammondii*	USFWS: None CDFG: Species of Special Concern	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	**Not Expected.** Vernal or seasonal pools do not occur within the project site. The settling ponds and water storage reservoir located onsite are heavily disturbed and developed, and are not suitable habitat. The species was recorded as occurring 3 miles west of the project site in the Santa Susana Mountains.
two-striped garter snake *Thamnophis hammondii*	USFWS: None CDFG: Species of Special Concern	Found in coastal California from vicinity of Salinas to northwest Baja California. A highly aquatic species, it is found in or near permanent fresh water, often along streams with rocky beds and riparian growth.	**Not Expected.** Aquatic habitat required by this species does not occur on site. This species was recorded 6 miles west of the site.
Birds			
Cooper's hawk *Accipiter cooperii*	USFWS: None CDFG:CNDDB	Associated with open, interrupted or marginal woodland habitat. Known to next in oak trees, but primarily nests in riparian growths of deciduous trees, such as in canyon bottoms on river flood-plains.	**Low.** Southern cottonwood-willow riparian habitat onsite is moderate to good quality. Disturbances in the vicinity of this habitat at the southern end of the project site limit the likelihood as a nesting site. This species was recorded as occurring and successfully nesting 9 miles north of the project site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
tricolored blackbird *Agelaius tricolor*	USFWS: None CDFG: Species of Special Concern	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California; Requires open water, protected nesting substrate and foraging area with insect prey within a few km of the colony.	**Low.** Los Angeles Reservoir is covered with shade balls. Potential nesting habitat occurs within the freshwater cattail marsh on the southern end of the project site. This habitat is minimal in size. This species was recorded as occurring at Chatsworth Reservoir, 10 miles southwest of the project site.
southern California rufous crowned sparrow *Aimophila ruficeps canescens*	USFWS: None CDFG:CNDDB	Southern California resident within sage scrub and sparse mixed chaparral habitat. Frequents relatively steep, often rocky hillsides with grass and forb patches.	**Not Expected.** Sage scrub and chaparral mixed habitat does not occur within the project site. Steep rocky hillsides are also not present. This species was recorded as occurring 6 and 9 miles north of the project site and 10 miles west of the project site.
burrowing owl *Athene cunicularia*	USFWS: None CDFG: Species of Special Concern	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation; subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Not Expected.** Flat grasslands with low-growing vegetation do not occur within the project site. This species was recorded as occurring 7 miles north of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	USFWS: Candidate CDFG: Endangered	This species is a riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Specifically, this species nests in riparian jungles of willow, often mixed with cottonwoods with lower vegetative layers of blackberry, nettles or wild grape.	**Low.** The dense, expansive riparian vegetation in the southern portion of the project site is suitable habitat for the species. The species was recorded as occurring 3 miles east of the site. However, the record was from 1893 and no other occurrences have since been recorded. No suitable habitat occurs within the potential disturbance area.
coastal California gnatcatcher *Polioptila californica californica*	USFWS: Threatened CDFG: Species of Special Concern	Obligate, permanent resident of coastal sage scrub below 2500 feet in southern California; low, coastal sage scrub in arid washes, on mesas and slopes; not all areas classified as CSS are occupied.	**High.** The coastal sage scrub habitat located within the project site is suitable habitat for the species. The species was recorded as occurring in the southern portion of the project site, east of the potential disturbance area. Critical habitat occurs approximately 4,000 feet west and north of the site.
least Bell's vireo *Vireo bellii pusillus*	USFWS: Endangered CDFG: Endangered	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms below 2000 ft; nests placed along margins of bushes or on twigs projecting into pathways; usually willow, baccharis, mesquite.	**High.** The dense, riparian vegetation within the project site is suitable habitat for the species. The species was recorded in the project site, north of the potential disturbance area.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
Mammals			
pallid bat *Antrozous pallidus*	USFWS: None CDFG: Species of Special Concern IUCN: LC WBWG: H	Deserts, grasslands, shrublands, woodlands and forests; most common in open, dry habitats with rocky areas for roosting; roosts must protect bats from high temperatures; very sensitive to disturbance of roosting sites.	**Not Expected**. Rocky roosting habitat does not occur within the project area. This species was recorded nearly 10 miles south of the site.
western mastiff bat *Eumops perotis californicus*	USFWS: None CDFG: Species of Special Concern IUCN: LC WBWG: H	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc; roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low.** Several large, mature trees occur on the project site, outside of the potential disturbance area. The species was recorded 5 miles north and west of the site.
California leaf-nose bat *Macrotus californicus*	USFWS: None CDFG: None IUCN: LC WBWG: M	This species needs rocky, rugged terrain with mines or caves for roosting, and is found in a variety of habitats including desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis.	**Not Expected.** Required rocky habitat does not occur within the project area. This species was recorded approximately 6 miles west of the site.
silver-haired bat *Lasionycteris noctivagans*	USFWS: None CDFG: None IUCN: LC WBWG: M	Primarily a coastal and montane forest dweller feeding over streams, ponds and open brushy areas; roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks; needs drinking water	**Low.** The tree structure on-site is not suitable for this species, although some abandoned woodpecker holes could be present. The species is recorded 3 miles east of the site.
hoary bat *Lasiurus cinereus*	USFWS: None CDFG: None IUCN: LC WBWG: M	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding; roosts in dense foliage of medium to large trees; feeds primarily on moths and requires water.	**Low.** The site has marginally suitable habitat due to limited numbers of trees with dense foliage scattered across the project site. None of these trees occur within the proposed project area. The species is recorded 3 miles east of the site.

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Common Name *Scientific Name*	Sensitivity Status[1]	General Habitat Requirements	Probability of Occurrence
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	USFWS: None CDFG: Species of Special Concern	Found within coastal sage scrub habitats in southern California.	**Low.** The site has suitable coastal sage scrub habitat. The species is recorded 7 miles east of the site.
San Diego desert woodrat *Neotoma lepida intermedia*	USFWS: None CDFG: Species of Special Concern	Coastal scrub of southern California from San Diego county to San Luis Obispo county; moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes.	**Not Expected.** No rocky outcrops or rocky cliffs occur within the project site. The species was recorded as occurring 3 miles northwest of the site.
southern grasshopper mouse *Onychomys torridus ramona*	USFWS: None CDFG: Species of Special Concern	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover; feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	**Not Expected.** The site has potentially suitable coastal sage scrub habitat. The species is recorded from approximately 7 miles southeast of the site, in the early 1900s.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	USFWS: None CDFG: Species of Special Concern	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin; open ground with fine sandy soils; may not dig extensive burrows, instead may be found hiding under weeds and dead leaves.	**Not expected.** The site has potentially suitable grassland and coastal sage scrub habitat. The species is recorded from approximately 8 miles south of the site, in 1903.

[1]**Sensitivity Status Codes**

USFWS U.S. Fish and Wildlife Service

CDFG California Department of Fish and Game

CNDDB California Natural Diversity Database list only: this species may be locally sensitive or occurrences are monitored to see if protection is needed.

CNPS California Native Plant Society
1A: Presumed extinct in California
1B: Plants rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants more information is needed for
4: Plants of limited distribution – a watch list
Threat Ranks
0.1- Seriously threatened in California (high degree/immediacy of threat)
0.2- Fairly threatened in California (moderate degree/immediacy of threat)
0.3- Not very threatened in California (low degree/immediacy of threats or no current threats known)

WBWG Western Bat Working Group
-H: High Priority
- M: Medium Priority
-MH: Medium-High Priority

IUCN The World Conservation Union
-DD: Data Deficient
-LC: Least Concern
-NT: Near Threatened

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Sources: California Department of Fish and Game. 2011a (July). State and Federally Listed Endangered, Threatened, and Rare Plants of California. State of California, The Resources Agency, Department of Fish and Game Resource Management and Planning Division Biogeographic Data Branch, California Natural Diversity Database. Available at http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf

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