Redmont Pump Station and Tank Project
Draft Environmental Impact Report

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ES.1 Introduction

This Draft Environmental Impact Report (EIR) has been prepared to address the environmental effects associated with implementation of the proposed Redmont Pump Station and Tank Project (proposed Project). The Los Angeles Department of Water and Power (LADWP), as owner and operator of the existing Redmont Pump Station and Redmont Tank (which is a covered reservoir), has proposed the replacement of the Redmont facility (i.e., new pump station and new steel tank) to provide a reliable water source to the Sunland-Tujunga community of the City of Los Angeles.

The LADWP, as the Lead Agency under the California Environmental Quality Act (CEQA), has prepared this EIR for the proposed Project. This EIR is an informational document for the general public and governmental agencies to review and evaluate the proposed Project. The reader should not rely exclusively on the Executive Summary as the sole basis for judgment of the proposed Project and alternatives; rather, the complete EIR should be consulted for specific information about the environmental effects and the implementation of associated mitigation measures.

Responsible and Trustee Agencies, other agencies with review authority over the proposed Project, and agencies with which the LADWP would need to coordinate aspects of the proposed Project include the following:

- California Department of Toxic Substances Control (coordinate classification and disposal of contaminated soils, if encountered during construction)
- City of Los Angeles Department of City Planning (issue Master Land Use Permit and zone variance)
- City of Los Angeles Department of Building and Safety (issue Building Permit and Construction Permit [for work within public right-of-way])
- City of Los Angeles Department of Public Works: Bureau of Engineering, Flood Control (issue permits for haul route, excavation, construction)
- City of Los Angeles Department of Public Works, Bureau of Sanitation (require stormwater mitigation plan; coordinate discharge of hydrostatic test water to sewer system)
- City of Los Angeles Department of Transportation (coordinate temporary lane closures)
- Division of Occupational Safety and Health (permit authority over trenches or excavations [five feet or deeper] into which a person is required to descend)
- Regional Water Quality Control Board (review and enforcement over stormwater discharges and authority over any other water or waste discharges)
- South Coast Air Quality Management District (review of construction-related emissions)

ES.2 Summary of Proposed Project

ES.2.1 Background

The existing Redmont Pump Station was constructed in 1955 and is owned and operated by the LADWP. The station receives water from the existing Redmont Reservoir (i.e., Redmont Tank), an underground,

covered reservoir located within the same property boundaries of the station. The reservoir, which was built in 1920 and acquired by LADWP in 1951, houses 435,000 gallons of water.

The Redmont Pump Station (RPS) and Redmont Tank (RT) are part of the greater City of Los Angeles water delivery service that LADWP operates within a city whose elevation ranges from sea level to over just over 5,000 feet above sea level. In the area of the Project site there is one source of water, the Green Verdugo Reservoir and Pump Station. To supply water to the area there are several discrete interconnected water system elevation zones requiring a series of pump stations. The existing RPS is the third in a series of five pump stations, and it delivers water from the RT to the Apperson Tank (approximately one mile east of the RPS) and the Highway Highlands Tank (approximately two miles southeast of the RPS). The new RPS will be designed as a dual pressure system to continue delivering water to the existing system (i.e., 2086-foot system), as well as delivering water to a new tank that will be constructed in the system that supports the new Canyon Hills Development (i.e., 1960-foot system).

During the summer months when water demands are high, the water elevation of RT drops and the existing RPS does not function efficiently, requiring excessive system manipulation to distribute water to the communities of Sunland and Tujunga. Additionally, due to the age of the existing pump, it routinely requires an inordinate level of maintenance and does not meet current control system standards and technology. An inspection in 1992 found that the reservoir liner and roof were in an insufficient condition. Although repairs were made, the inspection recommended that the reservoir be replaced entirely to ensure safety and reliability. To correct the operational weaknesses and vulnerabilities of the existing RPS, the LADWP proposes to replace the facility with a new pump station and storage tank.

ES.2.2 Proposed Project

The proposed Project site is shown in Figure ES-1 (Project Location) and is described in detail in Section 2 (Project Description). The proposed new RPS would take water from the proposed new RT, and would pump to two different pressure systems. The two systems that would be supplied by the new RPS include the 2086-foot system and the 1960-foot system. The 2086-foot supply pipeline will pump water to the Apperson Tank and Highway Highlands Tank, while the 1960-foot supply pipeline will pump to the new 1960-foot tank that will be constructed by the Canyon Hills Development project owner (Tract 61672) at a later date.

The proposed RPS would be approximately 92 feet long by 58 feet wide by 27 feet tall; it would house seven operating pumps, and an overhead crane for lifting equipment inside the pump station. Three 250 horsepower pumps would deliver water to the 2086-foot system, and three 250 horsepower pumps would deliver water to the 1960-foot system, each system will have a standby pump for maintenance purposes. The emergency standby diesel fueled IC engine driven pump that would directly serve the 2086-foot system would be served by a 1,200-gallon diesel tank that would be located aboveground at floor level with secondary containment.

The proposed tank would measure 58 feet in diameter and 30 feet in height, 20 feet of which is above grade, with 1.5 feet of dead zone giving a total approximate capacity of 468,000 gallons. The proposed RT would provide a comparable replacement volume of water to the existing 435,000-gallon RT. At a base elevation of 1,712 feet, the 30-foot tall proposed RT, with a water height of 25 feet, would have a high water elevation of 1,737 feet.

Redmont Pump Station and Reservoir Site Boundary

Figure ES-1

Site Location

Construction of the new pump station and tank would occur in two main phases as to not interrupt service. Phase I involves placing the existing pump station on direct line suction from the Foothill Pump Station, followed by the demolition of the existing RT and the construction of the new RPS. Upon completion of this construction, the new pump station will be placed on direct line suction. Phase II involves demolishing the existing RPS, and grading for the construction of the new RT. Construction will take roughly two years.

ES.3 Environmental Review Process

The LADWP prepared and transmitted a Notice of Preparation (NOP) for this EIR on March 17, 2016. Comments on the NOP were requested by no later than April 16, 2016. Scoping comments were received from State and regional agencies, as well as the public. The NOP and scoping letters are included as Appendix A of this EIR.

This Draft EIR is being released for agency and public review for a 45-day public review period. After completion of the public review period, all comments received on the Draft EIR will be reviewed and written responses will be prepared, along with any necessary revisions to the Draft EIR for the purposes of its finalization. The LADWP Board of Water and Power Commissioners will review and certify the Final EIR; following certification, the Board will make findings on any significant environmental effects and consider approval of the Project.

ES.4 Summary of Impacts and Mitigation Measures

Section 3 (Environmental Impacts Analysis) of this EIR presents the direct and indirect impacts associated with the proposed Project, as well as its incremental contribution to cumulative effects. Construction of the proposed Project would result in short-term, significant and unavoidable impacts related to noise and traffic. Localized air quality impacts from fugitive dust may also be significant and unavoidable during construction. All other construction and operational impacts can be mitigated to a level of less than significant, as summarized in Table ES-1 (located at the end of this section).

ES.5 Summary of Alternatives Analysis

Section 4 (Alternatives) provides a description of the Project alternatives. The No Project Alternative is also evaluated, as required under §15126.6 (e) of the California Code of Regulations. The alternatives analysis includes a discussion of alternatives that were dismissed from further consideration, as well as a comparative analysis of a reasonable range of potentially feasible Project alternatives. The alternatives in the comparative analysis include the following:

- **Proposed Project.** This Project would replace the LADWP's aging water storage and pump facilities that have had maintenance and operational issues. The proposed Project is summarized in ES.2, described in Section 2 (Project Description), and analyzed in Section 3 (Environmental Impacts Analysis).
- **Alternative 1 (Pipeline Reroute and RPS Upgrade).** This alternative would construct a new pump station at the undeveloped property located approximately 1,500 feet north of the existing pump station at 10709 North Tujunga Boulevard, which is currently owned by the Los Angeles County Department of Public Works. Alternative 1 also requires 4,500 feet of inlet/outlet pipe that would be constructed along Tujunga Canyon Boulevard through existing residential communities in Sunland and Tujunga to connect to the existing Redmont Reservoir. The existing Redmont Pump Station would be demolished and the roof of the existing Redmont Reservoir would be replaced to improve its condition and to extend its service life.

- **Alternative 2 (No Project Alternative).** Under this alternative, the proposed Project would not be constructed and the LADWP would continue to use the existing RPS and RT in its current condition. However, due to the age of the infrastructure and increasing operational and maintenance issues, the Sunland-Tujunga service area would likely experience periodic interruptions in water service. LADWP has determined that there is a high risk and probability that failure would occur at the existing facility.

ES.5.1 Environmentally Superior Alternative

Based on the analysis contained in Section 3 (Environmental Impacts Analysis) and Section 4 (Alternatives) of this EIR, the proposed Project is the environmentally superior alternative. The proposed Project best accomplishes the Project objectives while avoiding or mitigating construction and O&M-related impacts. It would affect less receptors from construction-related noise and traffic than Alternative 1, and would incorporate dust control mitigation to minimize emissions to the extent feasible to address fugitive dust. Alternatives 1 and 2 would likely require the implementation of a future project to address existing reliability and safety concerns at the Redmont Pump Station (under Alternative 2) and Reservoir (under Alternatives 1 and 2).

ES.6 Areas of Controversy and Issues to be Resolved

Evaluation of the proposed Project under CEQA was initiated on March 17, 2016. As of the publication of this Draft EIR, no areas of controversy or issues in need of resolution have been communicated to the LADWP. Additionally, there are no remaining technical project description issues or environmental review issues left to be resolved.

Table ES-1. Summary of Impacts and Mitigation Measures

Issues Area	Impact Number	Impact Summary	Mitigation Measure(s)	Level of Significance
Air Quality	AQ-1	The Project would conflict with the approved SCAB ambient air quality plans	None	Less than significant
	AQ-2	Project construction or operation emissions could significantly impact regional ambient air quality	None	Less than significant
	AQ-3	The proposed Project's construction emissions would exceed SCAQMD regional significance thresholds	None	Less than significant
	AQ-4	The proposed Project's operations emissions would exceed SCAQMD regional significance thresholds	None	Less than significant
	AQ-5	The Project's construction emissions would exceed SCAQMD Localized Significance Thresholds	AQ-5a (Fugitive Dust Control)	Significant and unavoidable
	AQ-6	The Project's operation emissions would exceed SCAQMD Localized Significance Thresholds	None	Less than significant
	AQ-7	The Project's toxic air contaminant emissions could cause SCAQMD health risk thresholds to be exceeded	AQ-7a (Off-Road Equipment Engine Control)	Less than significant after mitigation
	AQ-8	The Project's construction or operation would create substantial nuisance odors	None	Less than significant
Greenhouse Gas Emissions	GHG-1	The Project would produce GHG emissions that exceed the SCAQMD CO2e annualized significance threshold	None	Less than significant
	GHG-2	The Project would conflict with State and Local Greenhouse Gas Emissions Reduction Plans	None	Less than significant
Noise	N-1	Construction activities would result in temporary noise greater than 75 dBA at residential uses within 50-feet from work locations exceeding the performance standard established by the Los Angeles Municipal Code	N-1a (Implement Best Management Practices to Reduce Construction Noise and Address Public Complaints) N-1b (Obtain Noise Variance from City of Los Angeles)	Significant and unavoidable
	N-2	Project operation could result in localized increases in existing ambient noise conditions or violate local rules, standards, and/or ordinances	N-2a (Operation and Maintenance Noise Control)	Less than significant after mitigation
	N-3	Vibration from temporary construction equipment use or from Project operation could substantially disturb sensitive receptors	N-3a (Construction Vibration Monitoring) N-3b (Operation Vibration Control)	Less than significant after mitigation
Traffic and Transportation	T-1	Construction traffic would cause a temporary increase in vehicle trips resulting in an unacceptable reduction in the performance (LOS) of roadways or intersections affected by the Project	None	Less than significant

Table ES-1. Summary of Impacts and Mitigation Measures				
Issues Area	Impact Number	Impact Summary	Mitigation Measure(s)	Level of Significance
	T-2	Construction or operational daily vehicle trips would conflict with Congestion Management Program performance standards	None	Less than significant
	T-3	Construction would temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access and/or restrict the movements of vehicles (including emergency vehicles) such that there would be no reasonable alternative access routes available	T-3a (Construction Traffic Control Plan)	Significant and unavoidable
	T-4	Construction would increase hazards due to a design feature or incompatible uses or otherwise result in unsafe conditions on public roads	T-3a (Construction Traffic Control Plan) T-4a (Repair Roadways and Transportation Facilities Damaged by Construction Activities)	Less than significant after mitigation
	T-5	Construction would disrupt available street parking or significantly alter existing parking patterns	T-3a (Construction Traffic Control Plan)	Significant and unavoidable

1. Introduction

1.1 Purpose and Intended Uses of the EIR

The Los Angeles Department of Water and Power (LADWP), as owner and operator of the Redmont Pump Station and Redmont Reservoir, proposes to replace the existing Redmont facility with a new pump station and new steel tank. The Redmont Pump Station and Tank Project (proposed Project) are necessary to provide a reliable water source to the Sunland-Tujunga community of the City of Los Angeles. The proposed Project would be located at the existing pump station and reservoir site, and construction would occur in two phases over a two-year period as to not interrupt service.

This Environmental Impact Report (EIR) has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA). The LADWP is the lead agency under CEQA. CEQA requires the lead agency to consider the information contained in an environmental review document, in this case an EIR, prior to taking any discretionary action. This EIR will serve as an informational document to be considered by the LADWP and other local and State permitting agencies during their respective processing of the proposed Project.

This EIR evaluates and identifies recommended mitigation measures to offset direct, indirect, and cumulative impacts associated with the proposed Project's implementation. This EIR also identifies and evaluates the impacts of alternatives to the proposed Project, discloses growth-inducing impacts, and identifies its significant and unavoidable effects and significant irreversible environmental changes.

1.2 Project Objective

The objective of the proposed Project is to replace the LADWP's aging water storage and pump facilities that have had maintenance and operational issues. The Redmont Reservoir would be replaced with a 468,000-gallon steel tank, and the existing Redmont Pump Station would be replaced with a dual pressure zone pump station. The proposed replacement would improve the water system reliability in the Sunland-Tujunga community and would reduce the facility's operations and maintenance cost. The new dual zone pump station would also support water delivery to a future 1960-foot tank and meet the fire demand requirements placed on the 1960-system by the proposed Canyon Hills Development project (i.e., Tract 61672).

1.3 Summary of Scoping Comments

The scoping comment period began on March 17, 2016 with the release of the NOP and ended on April 16, 2016. Scoping comments were received from State and regional agencies, as well as a private citizen. Table 1-1 (Scoping Comments) provides a summary of the comments received, and the full comment letters are included in Appendix A.

Table 1-1. Scoping Comments

Commenter	Comment Date	Commenter Type	Comment Summary	Addressed in:
State of California Department of Transportation	4/6/2016	State Agency	If any project work would occur within the State's right-of-way, an encroachment permit will be required. The use of oversized-transport vehicles on State highways will require a Caltrans transportation permit.	Section 3.4
State of California Native American Heritage Commission	3/22/2016	State Agency	Recommends consultation with California Native American tribes affiliated with the project area.	Section 3.1
South Coast Air Quality Management District (SCAQMD)	4/15/2016	Regional Agency	Recommends using SCAQMD CEQA guidance and requests appropriate analysis of construction and operation air pollutant emissions impacts including localized health impacts. Requests feasible mitigation to reduce significant adverse air quality impacts, and identifies sources for possible mitigation measures applicable to the project.	Section 3.2
Pierrette K. Maule	3/28/2016	Private Citizen	Expresses concerns on the height of the new tank and the use of vegetative screening. Requests information on operational noise.	Section 3.1 and Section 3.3

1.4 Reader's Guide

This EIR contains the information and analysis required by CEQA Guidelines Sections 15120 through 15132. Each of the required elements is covered in one of the EIR sections or their related appendices, which are organized as follows:

- **Executive Summary.** Provides a description of the proposed Project's environmental review process, a summary of the proposed Project attributes and its impacts, a brief description of the proposed Project's alternatives and identification of the environmentally superior alternative, and a summary of the proposed Project's areas of known controversy and issues in need of resolution.
- **Section 1.0 – Introduction** contains a summary of the EIR's purpose and the proposed Project's objective, and comments received during Project Scoping.
- **Section 2.0 – Project Description** provides details on the proposed Project, including the general environmental setting, Project background, construction plan, operation and maintenance, and required permits and authorizations. Section 2.0 also includes the cumulative scenario, which provides a list of related projects and describes the methodology used in the cumulative assessment.
- **Section 3.0 – Environmental Impacts Analysis** details environmental setting information, applicable regulations and standards, proposed Project impacts, and proposed mitigation measures for specific resource areas. Section 3.1 provides the approach to the environmental analysis, as well as a discussion of the resource areas for which the proposed Project would result in no impacts or less-than-significant impacts. Detailed analyses potential direct, indirect and cumulative environmental impacts of the proposed Project are included in the following sections:
  - 3.2 – Air Quality and Greenhouse Gas Emissions
  - 3.3 – Noise
  - 3.4 – Traffic and Transportation

- **Section 4.0 – Alternatives** provides a comparison of the proposed Project impacts with those of Project alternatives developed by the LADWP.
- **Section 5.0 – Other CEQA Considerations** addresses other applicable CEQA requirements, including an analysis of growth-inducing effects, significant irreversible commitment of resources, and significant effects that cannot be avoided.
- **Section 6.0 – List of Preparers and Persons Consulted** lists all of the persons and agencies contacted and consulted during preparation of this EIR, as well as the preparers of the EIR document.
- **Section 7.0 – References** lists all of the informational references cited in this EIR.
- **Section 8.0 – Glossary, Acronyms, and Abbreviations** defines technical terminology, acronyms, and abbreviations used in this EIR.

2. Project Description

2.1 Project Overview and Objectives

The primary objective of the proposed Project is to replace the existing Redmont Pump Station (RPS) and Redmont Tank (RT)[1] to ensure continued water delivery to the communities of Tujunga and Sunland during both average and peak water demand periods. The existing facilities are aging and are prone to maintenance and operational issues. It was suggested after the last major inspection of the facility that replacement would eventually be a necessary action (LADWP, 1992). The specific objectives of this replacement Project are to:

- Improve system reliability and efficiency to reduce the operations and maintenance costs;
- Update control system design to meet current engineering standards and technology;
- Provide dual pressure zone pumping to deliver water to the future 1960-foot tank required by the City of Los Angeles Fire Department to address firefighting water needs at the new Canyon Hills Development (i.e., Tract 61672); and
- Eliminate low suction issues which the system faces during the summer months when water demands are high.

If the proposed Project is approved, it would construct the new RPS and RT at the same location as the existing RPS and RT. The water supply service area of the RPS would not change as a result of the implementation of this Project.

The proposed Project does not include the construction or operation of the Canyon Hills Development project's future 1960-foot tank, associated future 1960-foot system piping to the RPS, or the proposed future emergency 2200-foot pump station located adjacent to the 1960-foot tank. However, this development project and associated facilities have been included in the cumulative projects list in Section 2.5 and addressed in the cumulative impacts analyses in Sections 3.2 through 3.4.

2.1.1 Location and Setting

The existing RPS site is located at 10501 Redmont Avenue in the City of Los Angeles, at the northeast corner of the North Tujunga Canyon Boulevard and Summitrose Street intersection. The existing facilities serve the communities of Sunland and Tujunga, and consist of the station itself and the RT, which is a below-ground, covered water storage reservoir (Figure 2-1). The new RPS would be constructed on the same site, and during Project construction an empty parcel located one-quarter mile to the northwest of the Project site, on the northwest corner of North Tujunga Canyon Boulevard and Hillrose Street, would be used as a construction parking and staging area.

The properties directly adjacent to the RPS and those across the three streets that surround three sides of the site are all residential private properties. Land uses in the surrounding areas not directly adjacent to the site include low and medium density residential use, public facilities including four schools located within one-half mile of the Project site, and open space. There are few environmental hazards associated with operation at the Project site. The site is located in an area prone to high wind velocities, and it is classified as a special grading area; additionally, the site is located within the Verdugo Fault Zone.

[1] Redmont Tank is a covered reservoir.

Redmont Pump Station and Reservoir Site Boundary

Figure 2-1

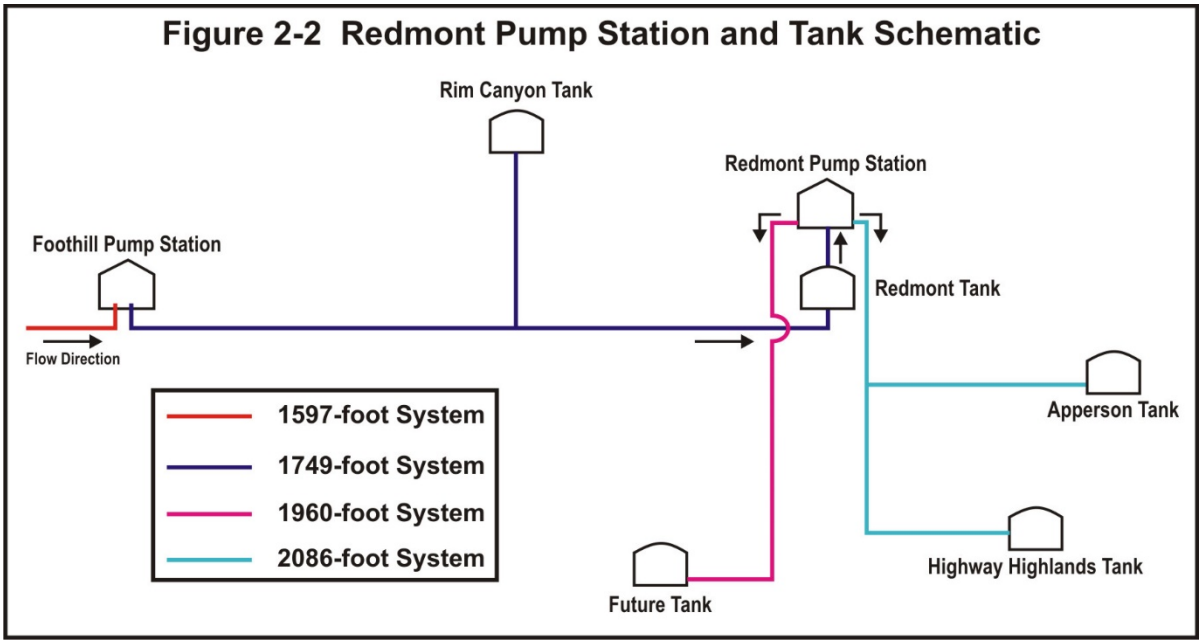
Site Location

2.1.2 Project History and Background

The existing Redmont Pump Station was constructed in 1955 and is owned and operated by the LADWP. The station receives water from the existing Redmont Reservoir (i.e., RT), an underground, covered reservoir located within the same property boundaries of the station. The reservoir, which was built in 1920 and acquired by LADWP in 1951, is an excavated and concrete lined facility with a built up roof supported by redwood timber roof framing and 3/4 –inch thick redwood planking which houses 435,000 gallons of water.

The RPS and RT are part of the greater City of Los Angeles water delivery service that LADWP operates within a city whose elevation ranges from sea level to over just over 5,000 feet above sea level. In the area of the Project site there is one source of water, the Green Verdugo Reservoir and Pump Station. To supply water to the area there are several discrete interconnected water system elevation zones ranging from the 1597-foot system to the 2440-foot system. The existing RPS is the third in a series of five pump stations and it is critical to this series of pump stations. The RT is connected to the 1597-foot system through the Foothill Pump Station (approximately 0.8 mile west of the RPS) and the 1749-foot system via the Rim Canyon tank (approximately 0.85 mile north-northwest of the RPS). The existing RT supplies the existing RPS which delivers water to the Apperson Tank (approximately one mile east of the RPS) and the Highway Highlands Tank (approximately two miles southeast of the RPS) in the 2086-foot system. The new RT will receive water in the same manner as the existing RT. The new RPS will be designed as a dual pressure system to continue delivering water to the 2086-foot system as before, as well as delivering water to a new tank that will be constructed in the 1960-foot system at the new Canyon Hills Development. That new 1960-foot system tank will feed a new pump station that will deliver water to the 2200-foot system; indirectly, water delivered by the RPS must provide the water demand for both the 2200-foot and the 2440-foot systems. A simple schematic of the directly interconnected water delivery system around the RT and RPS is provided below in Figure 2-2.

Figure 2-2 Redmont Pump Station and Tank Schematic



The existing RPS site is 19,196 square feet in size and includes the pump station itself, the existing RT, and on-site parking for an estimated two to three vehicles. The "footprint" of the existing pump station is approximately 625 square feet in size, and is approximately 20 feet high. Enclosed within the station are

three 200 horsepower electric water pumps having an estimated maximum operating rate of 5,000 gallons per minute (gpm) combined, and one 425 horsepower emergency backup diesel engine powered pump with an estimated flow rate of 3,300 gpm. Peak demand is currently handled by two pumps operating simultaneously, with a third electric pump available as a standby unit for maintenance purposes. Four water pipelines connect to the existing station; each pipeline is 20 inches in diameter and has a maximum operating pressure of 160 pounds per square inch gauge (psig). One pipeline supplies water to the pump station from the existing RT, one pipeline supplies water from Foothill Pump Station approximately one mile west of the RPS, and the remaining pipelines transport water to the 2086-foot system Highway Highland (two miles southeast) and Apperson Tanks (one mile east).

During the summer months when water demands are high, the water elevation of the existing reservoir drops and the existing pump station does not function efficiently. See Table 2-1 for the average and peak hour flows from the existing RPS recorded in the summers of 2008 to 2012. Due to reduced efficiencies under these circumstances, the pump station requires excessive system manipulation to distribute water to the communities of Sunland and Tujunga. Additionally, due to the age of the existing pump station (59 years), it routinely requires an inordinate level of maintenance and does not meet current control system standards and technology. An inspection in 1992 found that the reservoir liner and roof were in an insufficient condition (LADWP, 1992). Although repairs were made, the inspection recommended that the reservoir be replaced entirely to ensure safety and reliability.

Table 2-1. Redmond Pump Station Summer Flows

	2008	2009	2010	2011	2012
	Cubic feet per second (Cfs)				
Max	11.06	11.05	10.58	8.58	7.89
Average	5.30	4.37	4.38	4.46	4.61
	Gallons per minute (gpm)				
Max	4962	4961	4748	3849	3540
Average	2380	1962	1965	2001	2068

To correct the operational weaknesses and vulnerabilities of the existing RPS, the LADWP proposes to replace the facility with a new pump station and storage tank. The partially buried reservoir will be replaced with a 468,000-gallon steel bolt-in tank, and the existing RPS will be replaced with a dual pressure zone pump station consisting of six electric motor drive pumps and one emergency internal combustion engine driven pump.

2.2 Proposed Project

Under the proposed Project, the LADWP would:

- Construct and operate a new water pump station to replace the existing RPS that has a dual pressure zone pumping system.
- Construct and operate a tank to replace the existing RT.
- Install and maintain water connection pipelines.

The proposed new RPS (see Figure 2-3 for a plot plan of the project) would take water from the proposed new RT, and would pump to two different pressure systems. The two systems that would be supplied by the new RPS include the 2086-foot system and the 1960-foot system. The 2086-foot supply pipeline will pump water to the Apperson Tank and Highway Highlands Tank, while the 1960-foot supply pipeline will pump to the new 1960-foot tank that will be constructed and named by the Canyon Hills Development project owner (Tract 61672) at a later date. The Canyon Hills Development project would be located north of La Tuna Canyon Road, and would connect 118 residential units to the 1960-foot system as well as 103 dwelling units to the 2200-foot system.

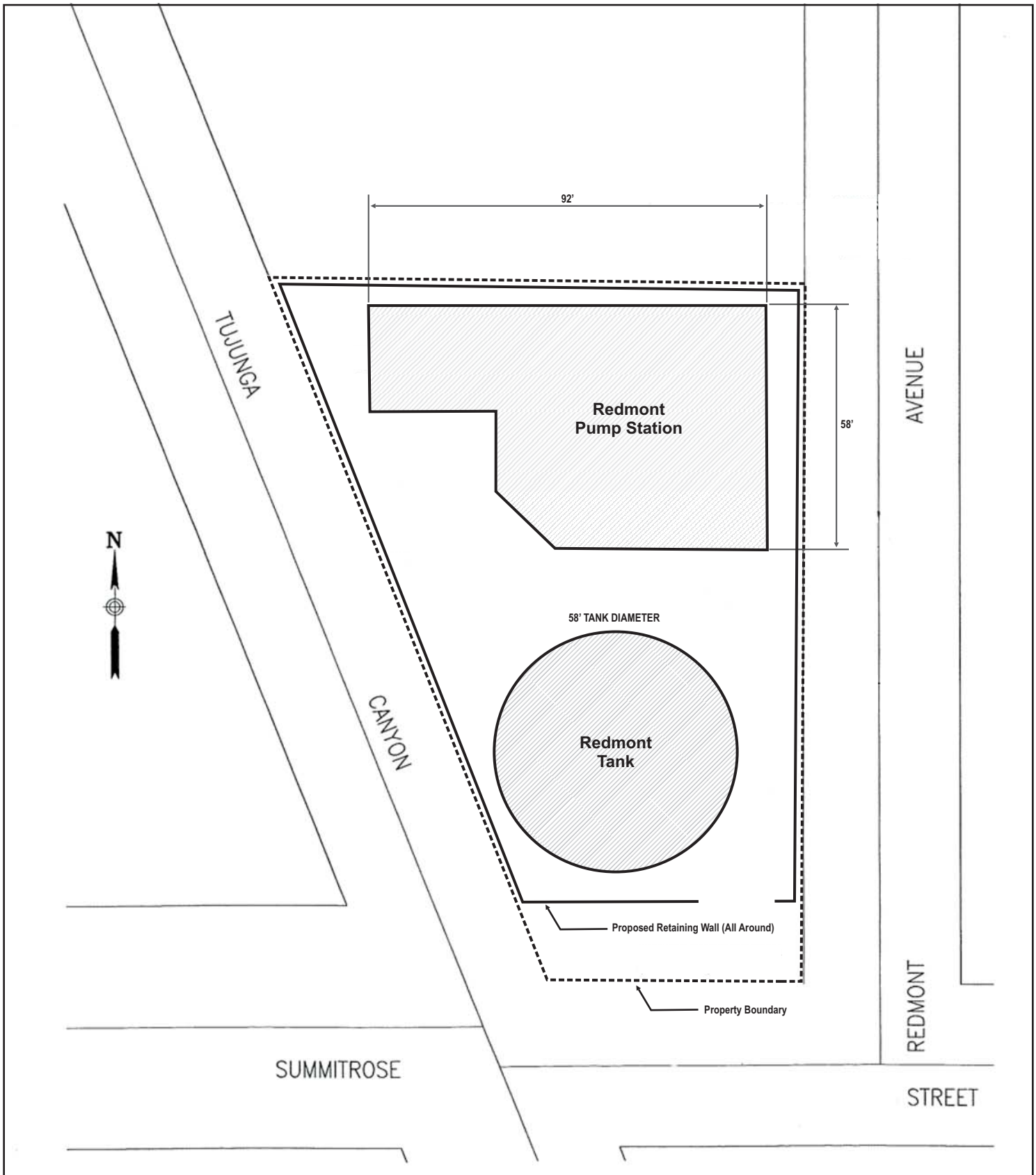


Figure 2-3

Site Plan

Depending on the schedule of the Canyon Hills Development project, one of the following two scenarios would occur:

- In order to meet fire demands, the developer would construct the 1960-foot tank as well as make improvements to the 1960-foot system. The proposed Project design would support this future related work. The existing Haines Canyon and St. Esteban Regulating Stations, and the Valmont and Commerce Regulating Stations, which are not directly connected to the RPS or RT or otherwise affected by the proposed Project, would be maintained as a back-up for the 1960-foot system.
- If the developer is not ready to proceed with construction of the proposed 1960-foot tank, a fourth pump would be installed on the low side (1960-foot system) and with proper valve placement discharge to the 2086-foot system. In this scenario, the RPS would pump to the 2086-foot system and three regulating stations would continue to feed water to the 1960-foot system. When the low side is ready to be installed, the fourth pump would be used as spare parts for the three high side pumps.

The proposed RPS would be approximately 92 feet long by 58 feet wide by 27 feet tall; it would house a total of seven pumps, and an overhead crane for lifting equipment inside the pump station. Three 250 horsepower pumps would deliver water to the 2086-foot system, and three 250 horsepower pumps would deliver water to the 1960-foot system. When operating, only four 250 horsepower pumps would deliver water (two to the 2086-foot system and two to the 1960-foot system). Two 250 horsepower pumps would be available as backup. The 2086-foot system would also be designed to be operated to feed the 1960-foot system. In addition to the six 250 horsepower pumps, an emergency standby diesel fueled IC engine driven pump would directly serve both systems by a 1,200-gallon diesel tank that would be located aboveground at floor level with secondary containment. The RPS would utilize programmable logic controls (PLCs). The station would have a separate enclosed control room for the remote terminal unit (RTU) panels and a work area. The proposed height of the new RPS, which would be built at a base elevation of 1,719 feet, would be slightly higher than the existing RPS (top height of 1,746 versus 1,744.5 feet above sea level). The existing site is lined with trees and shrubs along the perimeter of the property, and two Protected Trees are located at the site. The trees and shrubs will be removed to accommodate the required excavation activities. New perimeter planting will be installed and maintained to minimize visual impacts, and Protected Trees will be replaced in compliance with the City of Los Angeles Department of Public Works Tree Removal Permit described in the LADWP Redmont Station Protected Tree Report (see Appendix B). The appearance of the pump station building would be designed to be consistent with its existing residential surroundings.

The proposed tank would measure 58 feet in diameter and 30 feet in height, 20 feet of which is above grade, with 1.5 feet of dead zone giving a total approximate capacity of 468,000 gallons. The proposed RT would provide a comparable replacement volume of water to the existing 435,000-gallon RT. At a base elevation of 1,712 feet, the 30-foot tall proposed RT, with a water height of 25 feet, would have a high water elevation of 1,737 feet. The high water elevation will be close to the 1749-foot high water elevation of the existing Rim Canyon tank, the second tank in the 1749-foot system. The proposed height of the tank would be slightly lower than the existing pump station house (1,742 versus 1,744.5 feet above sea level). The proposed tank would also require the following appurtenances for operations: inlet/outlet lines, a tank water level recorder, a drain line, an overflow line, a sample tap, a mixer system with chemical injection capability, chlorine analyzer, supervisory control and data acquisition (SCADA) monitoring, tank access (with a minimum of a 24-inch maintenance hole), and an access road (with a minimum width of 11 feet around the perimeter of the tank). The proposed tank would have a tank level control for the Foothill Pump Station; LADWP operations would be able to control Foothill Pump Station from either the Rim Canyon Tank or the proposed RT.

Power would be obtained via overhead power lines which are located at the pump station driveway. Presently, a transformer is in place at the entrance to the property. As this existing transformer does not have the capacity to run both new and original pump stations, a new transformer would be needed for operation of the new pump station. Once the new pump station is in operation, the original transformer station would be removed. Prior to construction, the power pole on the west side of Redmont Avenue would need to be relocated to the east side of the street. This relocation would allow for the use of a crane along Summitrose Street to lift equipment and materials from Redmont Avenue onto the property.

Sections 2.2.1 through 2.2.3, below, provide a description of the Project's construction, operation and decommissioning.

2.2.1 Facility Construction

Construction of the new pump station and tank would occur in two main phases as to not interrupt service. Phase I involves placing the existing pump station on direct line suction from the Foothill Pump Station, followed by the demolition of the existing RT and the construction of the new RPS. Upon completion of this construction, the new pump station will be placed on direct line suction. Phase II involves demolishing the existing RPS, and grading for the construction of the new RT. Table 2-2 provides the estimated construction duration, number of workers, off-road equipment use, and total vehicle trips by construction subphase. Construction will take roughly two years (see Figure 2-4).

Table 2-2. Construction Assumptions

Subphase	Subphase Name	Duration/ Daily Workers	Off-road Equipment	Total Vehicle Trips
i	Decommissioning Tank	7 days/ 6 workers	None	Passenger - 42 Delivery - 7 Heavy-Duty Truck – 0
ii	Mobilization	30 days/ 6 workers	Forklift, Chipper, Chainsaws	Passenger - 90 Delivery - 0 Heavy-Duty Truck - 12
1A	Reservoir Demo	12 days/ 6 workers	Excavator/Hoe Ram, Forklift, Backhoe/Loader	Passenger - 72 Delivery - 12 Heavy-Duty Truck – 49
1B	Grading and Excavation	10 days/ 6 workers	Dozer, Skip Loader, Roller, Loader	Passenger - 60 Delivery - 10 Heavy-Duty Truck – 134
1C	Prepare Subgrade	5 days/ 8 workers	Excavator, Backhoe/Loader	Passenger - 40 Delivery - 5 Heavy-Duty Truck – 35
1D	Install Under Elect Conduit	20 days/ 6 workers	Forklift, Generator, Backhoe/Loader	Passenger - 120 Delivery - 20 Heavy-Duty Truck – 0
1E	Install Under Mech Piping	20 days/ 8 workers	Forklift, Generator, Backhoe/Loader, Trench Compactor	Passenger - 160 Delivery - 5 Heavy-Duty Truck – 1
1F	Form and Pour PS Foundation	10 days/ 8 workers	Concrete Trowel Machine	Passenger - 80 Delivery - 10 Heavy-Duty Truck – 35

Table 2-2. Construction Assumptions

Subphase	Subphase Name	Duration/ Daily Workers	Off-road Equipment	Total Vehicle Trips
1G	Form and Pour IS and Elec Pad	10 days/ 6 workers	Concrete Trowel Machine	Passenger - 60 Delivery - 3 Heavy-Duty Truck - 6
1H	Building Form and Pour	60 days/ 10 workers	Crane, Generator, Manlift	Passenger - 600 Delivery - 60 Heavy-Duty Truck – 50
1I	Roof System	20 days/ 5 workers	Crane, Forklift, Manlift	Passenger - 100 Delivery - 10 Heavy-Duty Truck – 5
1J	Piping and Pump Installation	20 days/ 10 workers	Crane, Backhoe/Loader, Forklift	Passenger - 200 Delivery - 40 Heavy-Duty Truck – 10
1K	Piping to Tank	10 days/ 8 workers	Forklift, Welder	Passenger - 80 Delivery - 5 Heavy-Duty Truck – 1
1L	Elect and Mech Equip.	30 days/ 8 workers	Crane, Forklift	Passenger - 240 Delivery - 30 Heavy-Duty Truck – 5
1M	Surge Tank System	20 days/ 6 workers	Crane, Forklift, Welder	Passenger - 120 Delivery - 15 Heavy-Duty Truck – 5
1N	Install IS/Switchgear/MCC/UPS	40 days/ 7 workers	Forklift, Generator/Welder	Passenger - 280 Delivery - 40 Heavy-Duty Truck – 3
1O	Install Elec Wiring	20 days/ 6 workers	None	Passenger - 120 Delivery - 20 Heavy-Duty Truck – 2
1P	Testing and Commissioning	59 days/ 8 workers	Manlift	Passenger - 472 Delivery - 59 Heavy-Duty Truck – 0
2A	Demo Fuel Storage Tank	15 days/ 6 workers	Excavator, Backhoe/Loader, Generator	Passenger - 90 Delivery - 15 Heavy-Duty Truck – 10
2B	Demo Exist PS Building	15 days/ 8 workers	Excavator/Hoe Ram, Forklift, Backhoe/Loader	Passenger - 120 Delivery - 0 Heavy-Duty Truck – 45
2C	Grading and Excavation	10 days/ 5 workers	Excavator, Dozer, Skip Loader, Roller, Loader	Passenger - 50 Delivery - 0 Heavy-Duty Truck – 4
2D	Prepare Subgrade	5 days/ 4 workers	Excavator, Excavator/Drill, Backhoe/Loader	Passenger - 20 Delivery - 5 Heavy-Duty Truck – 0
2E	Form and Pour Tank Foundation	15 days/ 8 workers	Concrete Trowel Machine	Passenger - 120 Delivery - 15 Heavy-Duty Truck – 13

Table 2-2. Construction Assumptions

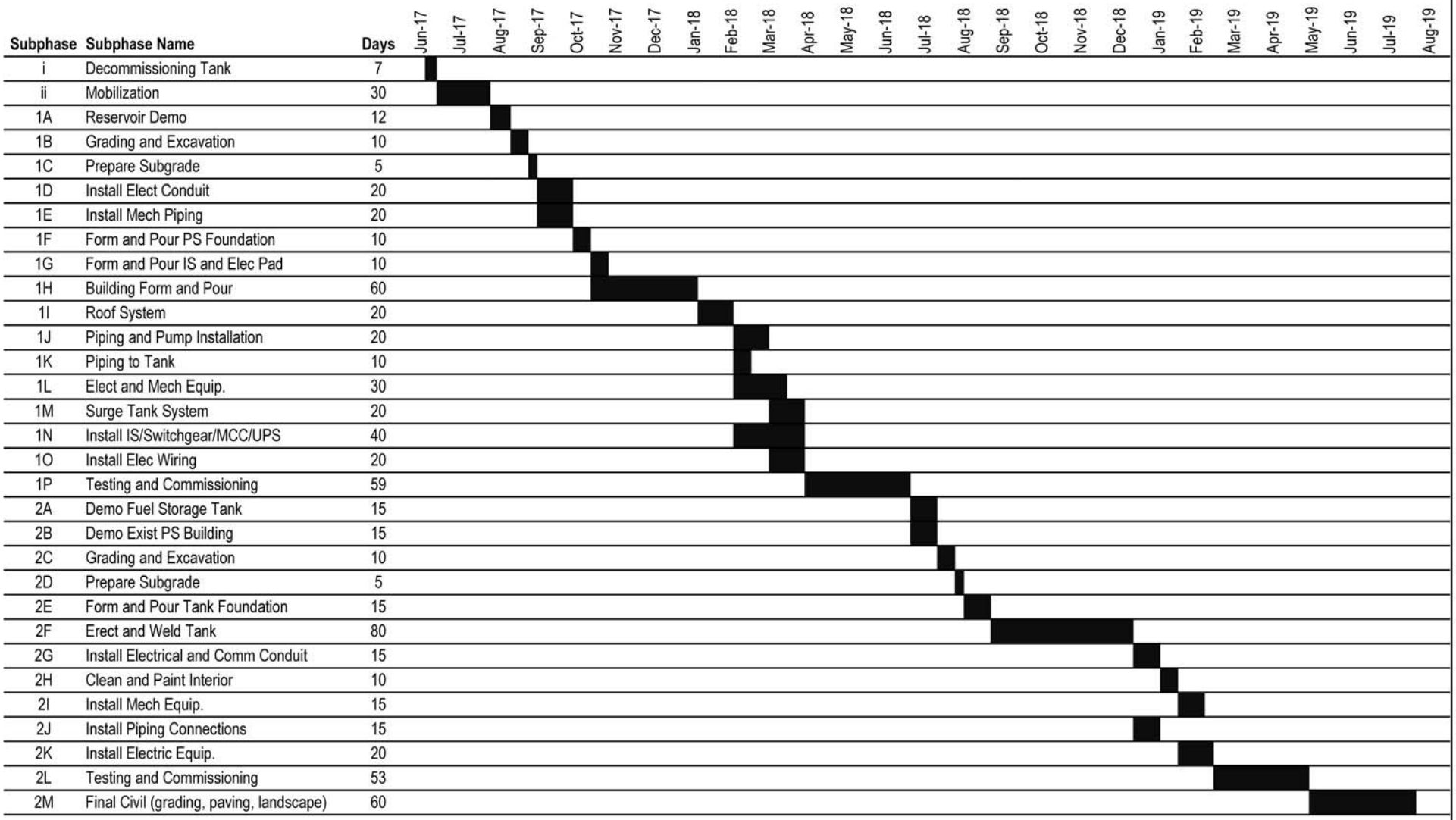
Subphase	Subphase Name	Duration/ Daily Workers	Off-road Equipment	Total Vehicle Trips
2F	Erect and Weld Tank	80 days/ 7 workers	Crane, Generator/Welder, Forklift, Manlift	Passenger - 560 Delivery - 150 Heavy-Duty Truck – 5
2G	Install Electrical and Comm Conduit	15 days/ 6 workers	Forklift	Passenger - 90 Delivery - 15 Heavy-Duty Truck – 0
2H	Clean and Paint Interior	10 days/ 4 workers	Compressor	Passenger - 40 Delivery - 10 Heavy-Duty Truck – 0
2I	Install Mech Equip.	15 days/ 7 workers	Crane, Forklift	Passenger - 105 Delivery - 15 Heavy-Duty Truck – 5
2J	Install Piping Connections	15 days/ 7 workers	Crane, Forklift, Welder	Passenger - 105 Delivery - 0 Heavy-Duty Truck – 2
2K	Install Electric Equip.	20 days/ 6 workers	Crane, Forklift	Passenger - 120 Delivery - 20 Heavy-Duty Truck – 1
2L	Testing and Commissioning	53 days/ 7 workers	Manlift	Passenger - 350 Delivery - 50 Heavy-Duty Truck – 0
2M	Final Civil (grading, paving, landscape)	60 days/ 6 workers	Dozer, Skip Loader, Roller, Paver, Forklift, Trencher	Passenger - 300 Delivery - 50 Heavy-Duty Truck - 30

The construction subphases in Table 2-2 are generally listed sequentially in their order of start date. In addition to the subphase specific vehicle trips (see Table 2-2), there are two additional passenger vehicle trips (i.e., one delivery vehicle trip and one heavy-duty truck trip) assumed for every active construction day. A detailed list of construction assumptions that includes off-road equipment size and daily usage, subphase work schedule overlaps, daily maximum vehicle trips per subphase and round trip distances assumptions is provided in Appendix C (Air Quality Emissions).

The proposed RPS would require the installation of the following water line connection pipelines to provide service:

- Approximately 100 feet of 16-inch pipe for the inlet/outlet line to the new tank and suction for the new pump station would be installed in Tujunga Canyon Boulevard.
- An estimated 50 feet of 16-inch discharge pipe for the new pump station 1960-foot system would be installed in Tujunga Canyon Boulevard.
- Approximately 200 feet of 16-inch pipe for the new pump station 2086-foot system would be installed along Tujunga Canyon Boulevard to Summitrose Street.

Minimum pressure on the new pump station suction pipe would be one psi. All pipes and appurtenances on the downstream of the 1960-foot pump system would be designed for a maximum hydraulic grade of 1,985 feet. All pipes and appurtenances downstream of the 2086-foot pump system would be designed for a maximum hydraulic grade of 2,130 feet.



Subphase	Subphase Name	Days
i	Decommissioning Tank	7
ii	Mobilization	30
1A	Reservoir Demo	12
1B	Grading and Excavation	10
1C	Prepare Subgrade	5
1D	Install Elect Conduit	20
1E	Install Mech Piping	20
1F	Form and Pour PS Foundation	10
1G	Form and Pour IS and Elec Pad	10
1H	Building Form and Pour	60
1I	Roof System	20
1J	Piping and Pump Installation	20
1K	Piping to Tank	10
1L	Elect and Mech Equip.	30
1M	Surge Tank System	20
1N	Install IS/Switchgear/MCC/UPS	40
1O	Install Elec Wiring	20
1P	Testing and Commissioning	59
2A	Demo Fuel Storage Tank	15
2B	Demo Exist PS Building	15
2C	Grading and Excavation	10
2D	Prepare Subgrade	5
2E	Form and Pour Tank Foundation	15
2F	Erect and Weld Tank	80
2G	Install Electrical and Comm Conduit	15
2H	Clean and Paint Interior	10
2I	Install Mech Equip.	15
2J	Install Piping Connections	15
2K	Install Electric Equip.	20
2L	Testing and Commissioning	53
2M	Final Civil (grading, paving, landscape)	60

Figure 2-4

Project Construction Schedule

Grading and shoring would be required during tank construction due to the difference in elevation with the proposed Project pad elevation of 1,712 feet to that of Redmont Avenue, Summitrose Avenue, and the private property at the north end of the Project site. Vaults may also be needed for any valves to which the Water Operations Department would require frequent access. A traffic loaded vault will house the inlet and outlet valves to the tank and will be located adjacent to the driveway/crane pad, inside the property. Small service vaults will be used for access to the flow meters and will be shallow so that all work is performed above the vault. Pressure recorders and flow recorders will be located on a wall inside the pump station.

Hydrostatic testing of the pipelines would be performed upon completion of all activities associated with pipeline installation. A hydrostatic test involves filling a pipeline with fresh water and increasing pressure to a predetermined level. Such tests are designed to prove that the pipe, fittings, and welded sections would maintain mechanical integrity without failure or leakage under pressure. The pipelines would be filled and pressurized, and then left for a period of 24 hours. After 24 hours the pipelines would be pressurized again. Upon completion of the hydrostatic test, the pipes would be disinfected and that water would be de-chlorinated and discharged into the existing storm drain system. Hydrostatic test and disinfection process water would be treated to meet the requirements of the proposed Project's National Pollutant Discharge Elimination System (NPDES) permit.

All materials that can be salvaged from the existing pump station would be transported to the LADWP West Valley District for recycling. Material that cannot be recycled would be hauled off site for permanent disposal at an appropriately licensed landfill.

2.2.2 Facility Operation

The new RPS will operate as an unmanned pumping station similar to the existing RPS, and regular maintenance activities are not proposed to increase from current maintenance activities at the existing RPS. Operational activities associated with the proposed replacement station would typically include one site visit per week by LADWP personnel for routine maintenance, repair and inspection, and would not require any new LADWP employees. In comparison to the existing RPS, the repair and maintenance activities associated with the new RPS would be reduced due to its improved design and engineering and the reduction in age related maintenance issues ongoing at the existing RPS.

The new RPS will operate with dual pressure zones to meet the operating needs of the 1960-foot system and the 2086-foot system. The final pump use configuration, after other system improvements are completed (e.g., Canyon Hills Development project), would have three electric pumps to service the 1960-foot system and three electric pumps to service the 2086-foot system. Prior to the completion of those other system improvements, one or all three pumps servicing the 1960-foot system may have valve placements to serve the 2086-foot system. Once operational, each pump would have an average operating flow rate of 1,700 gpm. Two pumps in each zone system will provide the maximum design capacity of approximately 3,000 gpm, while the third pump will be used as a standby unit. There would also be one diesel engine driven emergency standby pump rated at 4,900 gpm. The other two pumps in the system would be internal combustion pumps rated at 3,000 gpm. For the 1960-foot pressure zone, a total lift of 259 feet is needed when one pump is on and a total lift of 271 feet is needed when two pumps are on. For the 2086-foot system, a total lift of 379 feet is needed when one pump is, and total lift of 387 feet is needed when two pumps are on. This allows for the lift capacity to exceed the sum of the headloss between the station and the tank, and the elevation change between the two points. The new RPS and Tank would also support the 24-hour average ultimate maximum day (UMD) demands of the 2086-foot system and the 1960-foot system (2,032 gpm and 2,355 gpm, respectively). During peak hour demands, the Apperson Tank and Highway Highlands Tank would make up the supply shortage in the 2086-foot system, and the proposed

one million gallon 1960-foot tank at the Canyon Hills Development would make up the shortage in the 1960-foot system.

The six primary pumps would be driven by electric motors, but there would be a single standby 750 horsepower pump driven by a diesel fuel fired internal combustion (IC) engine. This IC engine, which would undergo monthly reliability testing, would only be used for water delivery in the event of station power loss. Standard valves with a pressure rating of 175 psi or higher would be used on the Project. Isolation valves would be required for the proper operation and maintenance of the proposed pump station and tank.

Following construction, on-site activities associated with operation of the pipelines would include periodic inspection and testing, typically once per week, by existing LADWP personnel.

2.2.3 Decommissioning

The proposed Project has a life expectancy of at least 50 years. Considering the expected continued demand for water, outdated or worn facility components, such as the valves, pumps, pump motors, pipes, and tanks would likely be replaced or upgraded in order to keep the Project operational beyond this 30-year Project life. Eventually a replacement pump station and tank similar to the Project may be proposed for this site, or proposed for a new site while the existing site facilities would be removed and replaced or the site would be decommissioned.

When the proposed Project is replaced or the Project site is decommissioned, all facilities that make up the proposed Project would be dismantled and removed in accordance with all applicable City of Los Angeles, State, and federal laws. The impacts of the decommissioning would be similar to those of Project construction, with assumptions that over time certain impacts may decrease due to technological improvements (such as air pollutant and GHG emissions impacts), while other impacts may increase due to changes in the Project setting (such as traffic impacts).

2.3 Required Permits and Approvals

Table 2-3, below, lists the permits and/or necessary approvals which may be required for Project-related activities.

Table 2-3. Permits and Approvals Which May Be Required

Agency/Department	Permit/Approval	Description
State of California		
California Department of Toxic Substances Control (DTSC)	Approval as necessary	Coordinate with DTSC, as needed, to address the classification and disposal of contaminated soils if encountered during construction.
Division of Occupational Safety and Health (Formerly CAL OSHA)	Construction Permit	A permit is required for construction of trenches or excavations which are five (5) feet or deeper and into which a person is required to descend.
Regional Water Quality Control Board (RWQCB)	NPDES Permit for construction dewatering	RWQCB approval is needed for general construction runoff and/or construction dewatering discharges under the National Pollutant Discharge Elimination System (NPDES).
	Groundwater Permit (if required)	Section 402 of the Clean Water Act of 1977, as amended (33 U.S.C. 1342 et seq.) requires a NPDES permit (No. CAG994001) for groundwater discharges associated with construction activities to regulate discharges of treated groundwater from construction and other projects dewatering to surface waters in the Region.

Table 2-3. Permits and Approvals Which May Be Required

Agency/Department	Permit/Approval	Description
	NPDES Permit for hydrostatic test water discharge	Approval is needed for discharge of hydrostatic test water into any surface water of the State of California.
Regional		
South Coast Air Quality Management District (SCAQMD)	Air Quality Permit to Construct & Permit to Operate	AQMD Permit to Construct and Permit to Operate must be obtained for the new diesel fueled IC Engine. Engine will need to meet current emissions tier standards for standby engines, and will have permit conditions to require a usage meter and log, as well as, to comply with other standard requirements for stationary diesel-fueled internal combustion engines.
City of Los Angeles		
Department of City Planning	Master Land Use Permit – Zone Variance	The property is currently zoned R1-1-RFA-Low Density Residential. Current and future uses of RPS and Reservoir are not in compliance with Residential zoning; therefore, a zone variance is recommended. The application should also include a request for no setback or height restrictions.
Department of Building and Safety	B Permit	The B-Permit is required for major street construction in the public right-of-way. This includes the widening of streets, the changing of existing street grade, and the installation of sewers, storm drains, street lights, and traffic control signals.
	Building Permits	Building Permits are required for grading, electrical, plumbing, and mechanical work associated with the proposed replacement pump station.
Department of Public Works, Bureau of Engineering	Haul Route Permit	The Bureau of Engineering requires that all project proponents file a request for review of their proposed import-export route.
	Excavation Permit	An Excavation Permit must be obtained from the Bureau of Engineering for any trench excavation activities.
	Highway Dedication Waiver	This waiver would allow the Project to be constructed without dedicating additional right-of-way on the existing property.
Department of Public Works, Flood Control	Construction Permit	Flood Control Permit is required to ensure that a proposed use does not interfere with the LACFCD's operation and maintenance responsibilities.
Department of Public Works, Bureau of Sanitation	LID/SUSMP Permit	LA SAN requires project applicants to prepare and implement a stormwater mitigation plan in order to ensure that development and redevelopment projects mitigate runoff in a manner that captures rainwater at its source, while utilizing natural resources.
	Sanitation Application Form for Discharging to Sewer System (if required)	Approval for discharging hydrostatic test water to the sewer system, if required, must be obtained from the Bureau of Sanitation.
Department of Public Works, Bureau of Street Services	Tree Removal Permit	Permit is required for the removal of protected trees at the Project site.
Department of Transportation	Traffic Management Plan	Approval is needed for temporary lane closures and traffic/transportation – related issues during construction.

2.4 Cumulative Scenario

This section presents the scenario used to determine the cumulative impacts associated with the proposed Project. Cumulative effects are those impacts from related projects that would occur in combination with similar impacts of the proposed Project. To document the process used to determine cumulative impacts, this section provides the CEQA requirements, the methodology used in the cumulative assessment, and the projects identified and applicable to the cumulative analysis. The analysis of cumulative impacts is presented within each issue area section (Sections 3.2 through 3.4).

CEQA Requirements

Both CEQA and the State CEQA Guidelines require that cumulative impacts be analyzed in an EIR when the resulting impacts are cumulatively considerable and, therefore, potentially significant. The discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Further, the discussion is intended to be guided by the standards of practicality and reasonableness. As stated in Public Resources Code Section 21083(b), "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable."

According to Section 15355 of the State CEQA Guidelines:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

Further, according to State CEQA Guidelines Section 15130 (a)(1):

> *As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.*

In addition, as stated in State CEQA Guidelines Section 15064(h)(4) it should be noted that:

> *The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.*

Therefore, the cumulative discussions in an EIR focus on whether the impacts of the project under review are cumulatively considerable within the context of impacts caused by other past, present, or future projects. Cumulative impact discussions for each issue area are provided in the respective sections.

Cumulative Impact Analysis Methodology

The area within which a cumulative effect can occur varies by resource. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts must be identified for each resource area.

The analysis of cumulative effects considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the proposed Project and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the indirect effects of the proposed Project. In addition, each project (see Table 2-4), has its own implementation schedule, which may or may not coincide or overlap with the proposed Project's schedule.

Cumulative impacts evaluated in this EIR would likely represent a "worst-case" scenario for the following reasons:

- Not all of the related projects will be approved and built. It is also possible that related projects will not be constructed or opened until after the proposed Project has been built;
- Some related projects may be completed prior to the initiation of proposed Project construction; and
- Related projects would likely be, or have been, subject to unspecified mitigation measures, which would reduce potential impacts.

The cumulative analysis focuses on addressing the following: (1) the area(s) in which the effects of the proposed Project would occur (i.e., the geographic scope); (2) the effects that are expected in the area(s) from the proposed Project; (3) past, present, and reasonably foreseeable future projects that have or that are expected to have impacts in the same area; (4) the impacts or expected impacts from these other projects; (5) and the overall impact(s) that can be expected if the individual impacts are allowed to accumulate.

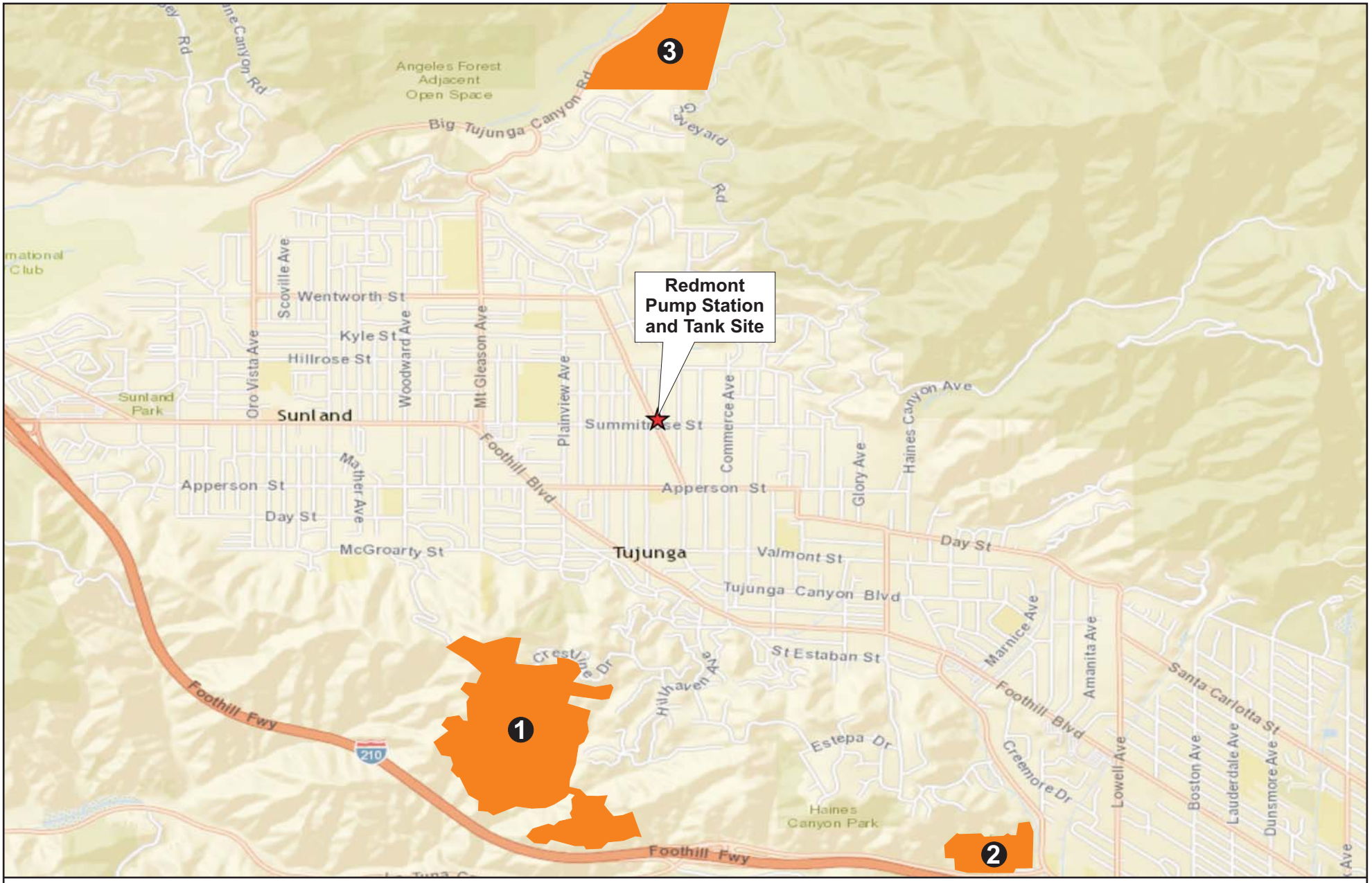
Relevant Cumulative Projects

For preparation of the cumulative projects list, the City of Los Angeles, Department of City Planning website (http://planning.lacity.org/) was assess for a current list of projects within a two-mile radius of the proposed Project site. Based on this research, three projects were identified within the two-mile radius that may affect the same area as the proposed Project and may have impacts similar to the proposed Project. These projects are described in Table 2-4 and are depicted in Figure 2-5.

Table 2-4. Redmont Pump Station and Tank Project Cumulative Projects List

Project	Type	Location	Status	Map No.
Canyon Hills Development Project (Tract 61672)	Development of 221 single-family residences on 194 acres within a 887-acre site. Would include future 1960-foot tank and associated future 1960-foot system piping to the RPS.	7000-8000 La Tuna Canyon Road North boundary: Verdugo Crestline Drive; south boundary: I-210	EIR certified by City Council on October 19, 2005. NOD issued March 20, 2007.	1
6433 La Tuna Canyon Road Project	Development of 229 homes on a 57.45-acre site currently occupied by the Verdugo Hills Golf Course	6433 La Tuna Canyon	Draft EIR was recirculated, with the public review period ending January 19, 2016	2
Canyon Park Homes Project	Development of 242 single-family residences on a vacant 78.04-acre site	12400 North Big Tujunga Canyon Road	Scoping meeting held January 15, 2015	3

Source: CAJA, 2015; City of Los Angeles, 2005 & 2015; SCH, 2007; The Voice, 2015.



1. Canyon Hills Development Project
2. 6433 La Tuna Canyon Road Project
3. Canyon Park Homes Project

Figure 2-5

Cumulative Projects

3. Environmental Impacts Analysis

3.1 Approach to the Environmental Analysis

Section 3 presents the analysis of potential direct, indirect and cumulative environmental impacts of the proposed Project. Alternatives are addressed in Section 4.

For 13 environmental resource areas, this EIR has determined that impacts of the proposed Project would not be significant. Section 3.1.2 provides a summary and explanation of the conclusions for each of these resource areas (as allowable under CEQA Guidelines Section 15128).

The detailed analyses of impacts related to Air Quality and Greenhouse Gas Emissions, Noise and Vibration, and Traffic and Transportation are presented in Section 3.2 through Section 3.4, respectively. Cumulative impacts to these three resource areas are also analyzed in Section 3.2 through Section 3.4.

3.1.1 Methods of Analysis

The methodology used to determine potential Project impacts comprises four key components. Each of these components is summarized below and discussed under each resource area addressed in Sections 3.2 through 3.4.

- **Environmental Setting.** In most cases, the description of existing conditions in the environmental setting focuses on the immediate vicinity of the Project sites (sensitive receptors, public roadways, existing water system infrastructure). For some resources, such as air quality and transportation, regional information is more appropriate.
- **Applicable Regulations, Plans, and Standards.** This includes a description of federal, state, and local regulatory framework applicable to the assessment of Project impacts.
- **Environmental Impacts and Mitigation Measures.** This includes the procedures followed to determine the type and magnitude of impacts that would occur, thresholds of significance, and Project impacts and mitigation measures.
    - **Thresholds of Significance.** Resource-specific thresholds, where appropriate, are used to evaluate the significance of environmental impacts. They are based on available resource agency thresholds, such as the South Coast Air Quality Management District's air pollutant and greenhouse gases emissions thresholds, augmented where appropriate with those identified in the Initial Study Checklist included in Appendix G of the CEQA Guidelines, and modified as needed to address potential Project impacts.
    - **Project Impacts.** Each resource area analysis identifies direct and indirect impacts that would occur absent mitigation measures. Direct impacts are those that are caused by and immediately related to the proposed Project. Indirect impacts would occur later in time or farther removed in distance, but are still reasonably foreseeable effects of the proposed Project. The following determinations are used for classifying Project-related impacts:
        - **Significant and unavoidable impact**; an adverse impact that cannot be mitigated to a level that is less than significant;
        - **Significant impact** that can be mitigated to a level of less than significant through the implementation of recommended mitigation measures;
        - **Less than significant impact**; an impact that is adverse but less than significant and mitigation is therefore not required;

- **Beneficial impact**; an impact that improves environmental conditions either directly or indirectly and mitigation is therefore not required; and
- **No Impact**; circumstances under which no direct or indirect effect would occur and mitigation is therefore not required.

- **Level of Significance after Mitigation.** This section identifies the level of significance under CEQA, after implementation of environmental commitments and mitigation measures identified by the LADWP to mitigate significant Project impacts.

3.1.2 Effects Not Found to be Significant

CEQA requires that an EIR address potentially significant environmental effects; this analysis is included in Section 3.2 through Section 3.4 of this EIR. CEQA Guidelines Section 15128 also requires that an EIR briefly explain the reasons why certain effects associated with a proposed project have been determined not to be significant, and therefore not discussed in detail in the EIR. The following discussion presents this required rationale.

The proposed Project would result in no impacts or less than significant impacts to the following resources:

- Aesthetics
- Agriculture and Forestry Resources
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

Summary descriptions of each of these resources and an explanation of why the proposed Project would not result in significant impacts are presented below. Significance criteria are derived from CEQA Guidelines Appendix G (CEQA Checklist).

Aesthetics

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to aesthetics. Construction and operation of the proposed Project would not:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Explanation

The proposed Project would create temporary visual impacts due to the presence of heavy equipment and vehicles, the stock-piling of materials which are either required for construction or generated by demolition, work crews, and associated construction- and demolition-related activities. Under CEQA a scenic vista is defined as a viewpoint that offers views of a highly valued landscape for the benefit of the general public. The proposed Project site is located within a developed residential area at the existing Redmont Pump Station, and is not adjacent to designated open space (City of Los Angeles, 1997, 2016a). Construction and operation of the proposed Project would not have an adverse effect on a scenic vista.

The Sunland-Tujunga neighborhood of Los Angeles is surrounded by three freeways: Interstate 210, Interstate 5, and State Route 2. State Route 2 is a State designated scenic highway (Caltrans, 2016a); however, the proposed Project site is approximately 20 miles from the highway, creating no visual obstruction (Caltrans, 2016b). The site is predominantly surrounded by single family residences with ornamental landscaping. No natural rock outcroppings, historic buildings or other scenic resources are located in close proximity to the site. Therefore, the construction and operation of the proposed Project would not substantially damage scenic resources.

Construction of the proposed Project would require excavation, trenching, and the removal of trees along the perimeter of the site, which would temporarily alter or degrade the existing visual character of the proposed Project site. However, the LADWP would implement best management practices (BMPs) to minimize changes in the appearance of the existing site, and to integrate the proposed structures into the character of the surrounding community to the extent feasible.

The LADWP has identified the following BMPs for the proposed Project:

- **Landscaping:** A landscape plan will be developed for the Project to replace vegetation along Redmont Avenue, Summitrose Street, and Tujunga Canyon Boulevard, and will primarily include California native plants.
- **Color Palette:** The new tank will be painted in a color that is consistent with an earth tone palette, to be compatible with the palette of the surrounding residential community.
- **Construction Lighting:** Construction crews will be instructed to direct light away from adjacent residential properties.
- **Operation Lighting:** Exterior LED lighting will be fully shielded (i.e., no direct uplight). All lighting will comply with Title 24 requirements such as utilizing motion sensors, reducing lighting power when applicable, and auto-on functionality.

All vegetation removed along the perimeter of the Project site would be replaced after construction is complete to screen the facility. However, it is expected that vegetative perimeter screening would not occur to the extent that currently exists. The transformer on-site would no longer be visible after construction is completed. The outward appearance of all structures will be designed to blend in with the architecture of buildings in the neighborhood, and colors and textures would be chosen so as to not be visually obstructive, improving the visual quality of the site. The tank will be painted and will have no glare. With incorporation of the BMPs listed above, the proposed Project would not substantially degrade the visual quality and surroundings in this developed area, nor would the Project significantly alter a scenic resource.

Agriculture and Forestry Resources

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to agricultural resources. Construction and operation of the proposed Project would not:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4523), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Explanation

The proposed Project is not located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC, 2015). There are no enrolled Williamson Act lands in the Project area and the proposed Project would not conflict with a Williamson Act contract (DOC, 2016a). The Project is located at the existing Redmont Pump Station and Reservoir site, and is surrounded by residential development. The Project is not located on land that is zoned for forest land or timberland. The Project would not convert forest land to non-forest use, nor would it convert Farmland to non-agricultural use. Therefore the proposed Project would not impact Agriculture and Forestry Resources.

Biological Resources

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to biological resources. Construction and operation of the proposed Project would not:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Explanation

The proposed Project area is located within a highly developed urban area. There are currently 56 special-status wildlife taxa that have been documented within the general region of the Project site (Aspen, 2015). Only one taxa, California Gull (*Larus californicus*), was observed soaring over the Project site during surveys in June 2015 (Aspen, 2015). There are multiple eBird records for this species in the general vicinity of the Project site (eBird, 2015). Habitat in the proposed Project area is generally unsuitable to support sensitive plant and wildlife species and no impacts would be expected. Operation of the proposed replacement pump station and tank would be limited to periodic inspections, maintenance and repair activities by LADWP personnel. These minor activities would not be anticipated to impact any species identified as a candidate, sensitive, or special status species.

No sensitive vegetation communities were mapped within or adjacent to the Project site. A literature review conducted prior to conducting field surveys determined that designated and/or mapped critical habitat does not occur within the Project site for any plant or wildlife species (Aspen, 2015). A review of the California Natural Diversity Database and the Consortium of California Herbaria data reported occurrences of special-status species within a three-mile radius of the Project site (CCH, 2015; CDFW, 2015). However, these occurrences are generally associated with large sandy washes and the San Gabriel and Verdugo Mountains that occur within approximately one to two miles of the Project site. The proposed Project area is located in a highly urbanized area within which riparian and other sensitive natural communities do not occur. Proposed construction and demolition activities would not result in the permanent or temporary removal of any riparian or sensitive natural community identified in local or regional plans, polices, or regulations, or any habitat identified by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. Additionally, the proposed Project area does not contain any federally protected wetlands, including wetlands, vernal pools, marsh, or riverine habitats. Therefore, the proposed Project would have no adverse impacts on protected wetlands.

The proposed Project is located in a highly developed urban area that does not support suitable habitat for sensitive plant or wildlife species. The Project site is not located within a contiguous open space area that could function as either a wildlife corridor or nursery site.

The proposed Project site supports two native coast live oak trees, each located immediately outside of the fenced area. Excavation during the proposed construction of the underground storage tank would encroach into the area where the protected trees are located. In order to comply with the City of Los Angeles Protected Tree Ordinance (Ordinance #177404), the LADWP would seek a Tree Removal Permit from the City of Los Angeles Department of Public Works.

There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans applicable to the proposed Project area or any areas immediately surrounding it. Therefore, proposed construction, demolition and operational activities would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Cultural Resources

Discussion of Formal Tribal Consultation for the Proposed Project

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of mitigating impacts to tribal cultural resources.

PRC Section 21074 defines a tribal cultural resource as any of the following:

> *"(a) (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or determined to be eligible in the California Register of Historical Resources. (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*
>
> *(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*
>
> *(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.*
>
> *(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 also may be a tribal cultural resource if it conforms with the criteria of subdivision (a)."*

The LADWP provided notification of the proposed Project to Native American tribes traditionally and culturally affiliated with the area. LADWP did not received initial requests from Native American tribes to be informed about proposed projects; however, LADWP reached out to all groups listed on the California Native American Heritage Commission's Tribal Consultation List (received on February 8, 2016) in a good faith effort to provide notification of the proposed Project.

Consultation initiation letters were mailed out on February 29, 2016, and the LADWP received a request to consult formally during the month of March 2016. LADWP responded to the request to formally consult by proposing to meet within the coming month on site to allow the tribe to provide "expertise in tribal history and tribal knowledge about land and tribal cultural resource". A conference call meeting was held on the morning of April 29, 2016 as an initial step in the consultation process.

During the initial consultation meeting, concerns about previously disturbed areas on site were expressed. It was determined that a second consultation meeting would be needed after LADWP and the tribal historian exchanged data and maps. At the time of publication of this Draft EIR, the LADWP is waiting on additional maps/documentation from the tribal historian to move forward in the process and decide on appropriate mitigation efforts.

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to cultural resources. Construction and operation of the proposed Project would not:

- 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 Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either:
    1. a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    2. a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code section 5024.1 (c), and considering the significance of the resource to a California Native American tribe.

Explanation

A Sacred Lands File check was conducted through the Native American Heritage Commission after the LADWP submitted a request in 2016. A search of the Sacred Lands File provided negative results. A Phase I Cultural Resource Assessment and a Paleontologic Assessment were completed for a previously proposed project, which included the demolition of the existing Redmont Pump Station at the current Project site (ArchaeoPaleo Resource Management, Inc., 2007). Evaluation of the subject properties included conducting cultural resource and paleontologic records and literature searches, a thorough review of existing published and unpublished references on local prehistory and history, Native American consultation, and completion of intensive cultural resource and paleontologic field surveys. An intensive pedestrian survey of the proposed Project area was conducted on May 30, 2007 (ArchaeoPaleo Resource Management, Inc., 2007). As a whole, the proposed Project area has experienced substantial historic and modern surficial ground disturbance.

A cultural archival records and literature search was conducted for a previously proposed project (part of which included the current Project site) at the California Historical Resources Information System (CHRIS) legal repository located at the South Central Coastal Information Center at California State University, Fullerton (ArchaeoPaleo Resource Management, Inc., 2007). The research conducted at the CHRIS facility consisted of a review of the existing published and unpublished references on local prehistory and history. The research indicates that no previously recorded prehistoric or historic archaeological sites are known to be present within the proposed Project area, but that it has never been surveyed by archaeologists. However, a search of historical publications and archival maps for cultural resources in the proposed Project area, which included the California State Historic Resources Inventory, the National Registry of Historic Places, California Historical Landmarks (1990), and California Points of Historical Interest (1992), contained negative findings as well. In addition, the archival records research determined that no prehistoric cultural resources, four historic cultural resources, and 10 archaeological sites have been recorded within a one-mile radius of the proposed Project area. The cultural resources previously recorded include one historic single story residence dating from the 1930s or 1940s, the Community Christian Church of the Foothills constructed in 1956, a 500-gallon corrugated metal tank constructed after 1945, and a historic paved road circa late 1940s. In sum, the archival records search and literature review indicates that the proposed Project area is situated within an area of low sensitivity for prehistoric resources and within an area of moderate sensitivity for important historic resources.

A paleontological records search was conducted at the Natural History Museum of Los Angeles County, Vertebrate Paleontology Section, in June 2007 for a previously proposed project (part of which included the abovementioned proposed Project site). Results of the search indicate that there are no known vertebrate fossil deposits that lie beneath the proposed Project site (ArchaeoPaleo Resource Management, Inc., 2007).

As discussed above, the LADWP has entered formal consultation with a Native American tribe in order to gather information on tribal cultural resources within the Project area. Through this consultation process, the LADWP and the tribe will determine measures to avoid impacts to tribal cultural resources. Furthermore, the LADWP has identified the following BMPs that would minimize Project effects on cultural resources:

- **Phase II Evaluation:** If it is determined that a Project element requiring ground disturbance cannot be located at least 60 feet from the mapped boundaries of an archaeological site (including sites encountered during construction), then significance testing (Phase II evaluation) shall be conducted to make a definitive determination of the site's eligibility for listing in the California Register of Historical Resources, and to verify whether or not the site would be affected by the disturbance. This would require the following:
  1. Development of a research design that guides assessments of site significance and scientific potential;
  2. Mapping and systematic collection of a representative sample of surface artifacts;
  3. Subsurface investigation through shovel test pits, surface scrapes, or 1-meter by 1-meter excavation units; a combination of such methods; or equivalent methods;
  4. Analysis of recovered material to determine significance pursuant to CEQA;
  5. Preparation of a report, including an evaluation of site significance, and recommendations for mitigation, if appropriate; and
  6. Appropriate curation of collected artifacts.
- **Phase III Evaluation:** Resources found to be not significant shall not require additional mitigation; however, those sites found to be significant may require additional documentation or data recovery (Phase III) investigations to mitigate Project impacts adequately. The Phase III data recovery program shall include:
  1. Development of a comprehensive research design to answer questions addressed during the Phase II evaluation on a broader regional level and to provide a procedural framework for the collection of data at sites determined to be significant;
  2. Mapping and systematic collection of surface artifacts;
  3. Subsurface investigation through methods such as controlled hand-excavation units, mechanical excavations, deep testing, or a combination of methods. When applicable, other techniques, such as geophysical testing methods, may also be used;
  4. Analysis of recovered material through visual inspection and chemical analysis when applicable;
  5. Preparation of a report; and
  6. Appropriate curation of collected artifacts.
- **Native American Monitors:** Tribal representatives that have participated in Native American consultation for the Project shall be contacted prior to the start of Project construction. Qualified Native

American monitors shall be provided the construction schedule and afforded an opportunity to be present during earthwork and excavation activities associated with construction, as needed.

- **Unexpected Cultural Resource Discoveries:** If previously unrecorded cultural resources are encountered during Project construction, all work shall cease within 60 feet of the discovery until the find can be evaluated by a qualified archaeologist. Work shall not resume until the discovery has been evaluated and the recommendations of a qualified archaeologist have been implemented.
- **Employee Training:** All construction workers and supervisors shall attend a mandatory workshop providing information on monitor roles, responsibilities, and authority; restricted areas and approved vehicle corridors; the types of artifacts that may be encountered; penalties for unauthorized collection of artifacts; and the need to temporarily redirect work away from the location of any unanticipated discovery until it is recorded and adequately documented and treated.
- **Unexpected Paleontological Discoveries:** If paleontological materials are discovered and cannot be avoided, all construction work within a 60-foot radius of the find shall be halted until a qualified paleontologist or paleontologically-trained archaeologist can assess the significance of the find. Paleontological discoveries during Project operation would also be reviewed by a qualified paleontologist or paleontologically-trained archaeologist.
- If the discovery is significant or potentially significant, then the following shall apply: data recovery and analysis, preparation of a data recovery report, and accession of recovered fossil material at an accredited paleontological repository (e.g., the University of California's Museum of Paleontology). Significant vertebrate fossils shall be recovered. A representative sample of significant invertebrate and plant fossils shall be recovered.
- **Discovery of Human Remains:** In the unexpected event that human remains are discovered, the Los Angeles County Coroner shall be contacted, the area of the find shall be protected, and provisions of State CEQA Guidelines Section 15064.5 and Public Resources Code 5097 shall be followed.

With incorporation of the BMPs listed above, the proposed Project would avoid or minimize impacts to cultural resources.

Geology and Soils

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to geology and soils. Construction and operation of the proposed Project would not:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42),
  - Strong seismic ground shaking,
  - Seismic-related ground failure, including liquefaction, or
  - Landslides;
- Result in substantial soil erosion or the loss of topsoil;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Explanation

The Project site is located on broad alluvial fan emanating from Haines Canyon to the east in the San Gabriel Mountains. Soils at the site consist of undocumented fill (human placed materials) overlying native alluvial deposits. Per a 1999 Foundation Investigation, the native alluvial deposits at the Project site consist of interbedded sand and gravel with granitic cobbles and boulders (Foundation Investigation 1999). While excavation, grading, and demolition could temporarily increase the potential for erosion, a Storm Water Pollution Prevention Plan (SWPPP) would be implemented and would render the Project's impacts less than significant. See the discussion for Hydrology and Water Quality, below, for further information on the Project's SWPPP. Construction and operation of the proposed Project would not affect any existing, or hinder any future, septic tanks or alternative wastewater disposal systems, or the soils that would adequately support those systems.

The site is located within a seismically active region that is well-known for its many active faults and historic seismicity, and strong ground shaking should be anticipated to occur at the site. However, the site is not located within an Alquist-Priolo Earthquake Fault Zone as identified by the California Geological Survey (CGS). The nearest fault zone is approximately 0.3 mile east of the Project site (City of Los Angeles, 2016b; DOC, 2016b). The site is not located within an area that the CGS designated as having the potential for earthquake-induced landsliding, nor is the Project in an area designated by CGS as having the potential for earthquake-induced liquefaction (City of Los Angeles, 2016c).

Hazards and Hazardous Materials

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects related to hazards and hazardous materials. Construction and operation of the proposed Project would not:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Explanation

Proposed construction and demolition activities would involve the excavation and transport of paving/building materials (e.g., concrete) and soils that could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving/building materials and soils would be transported and disposed of in accordance with applicable codes and regulations of the U.S. Department of Transportation, U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Marshal. Such transport and disposal would not be expected to create a significant hazard to workers or the surrounding community.

During proposed construction and demolition activities small quantities of hazardous materials, such as petroleum hydrocarbons and their derivatives (e.g., gasoline, oils, lubricants, and solvents), would be required to operate heavy equipment. These materials would be contained within vessels engineered for safe storage. Storage of substantial quantities of these materials would not be anticipated. Construction vehicles are likely to require on-site refueling, and may require routine or emergency maintenance that could result in the release of oil, diesel fuel, transmission fluid or other materials; however, the materials would not be used in quantities large enough or stored in a manner that would pose a significant hazard to the public or the construction and demolition workers themselves. Any use of such materials during construction or operation of the proposed Project would occur under BMPs to avoid accidental spill(s) or leak(s).

The existing facility has an underground storage fuel tank and asbestos that will need to be removed. Prior to removal activities, LADWP will conduct an environmental investigation to assess what is necessary for the tank removal, including assessing the amount of asbestos and determining if the tank has leaked, which could result in the potential for limited remedial activities. If soil remediation activities are determined to be required prior to removal activities, or this need is discovered during removal activities, the remediation activities would be conducted in compliance with all applicable regulations. At this time, it is expected the existing underground storage fuel tank will be removed and disposed by a hazardous material contractor during construction. All asbestos containing materials will be removed by certified asbestos abatement personnel and will be transported to a DWP Asbestos Collection location at Valley Generation.

The proposed Project would not be located on a hazardous materials site and would not create a significant hazard to the public or the environment (City of Los Angeles, 2016a). Our Lady of Lourdes School is approximately 0.3 mile away from the proposed Project site. Construction emissions would not be anticipated to affect students at that distance (LAUSD, 2016). The proposed Project is also not located within an airport land use plan, within two miles of an airport, or within the vicinity of a private airstrip. Construction of the proposed Project would not introduce a significant risk of wildland fire, as it is not

located adjacent to wildlands or open space areas. The construction of the proposed Project would require a traffic control plan (as discussed in Section 3.4, Traffic and Transportation); however, it would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Operation would typically be limited to routine inspections and maintenance of the Redmont Pump Station and Tank. Therefore, the proposed Project would have a less than significant impact from hazards and hazardous materials.

Hydrology and Water Quality

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to hydrology and water quality. Construction and operation of the proposed Project would not:

- 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- 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;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Cause inundation by seiche, tsunami, or mudflow.

Explanation

The proposed Project site would be controlled for fugitive dust by water trucks and spray nozzles. Construction water needs would generate minimal quantities of discharge water, which would drain into existing storm drains; however quality of water is expected to be high. A SWPPP would be prepared for all construction/industrial discharges at this site. The SWPPP would be submitted to the Los Angeles Regional Water Quality Control Board (RWQCB) for review and approval prior to proposed construction and demolition activities. Compliance with the SWPPP would ensure that the potential for violating water quality standards would be less than significant.

The majority of the proposed Project area is developed with residential uses, and its drainage pattern is defined primarily by roadways and storm drains. There are no streams or river courses on or near the Project site, and no substantial changes are proposed to the site that would alter the drainage or cause flooding or erosion (City of Los Angeles, 2016a). Compliance with the proposed Project's SWPPP during proposed construction and demolition activities would ensure that the impacts related to erosion or siltation, on- or off-site, would be less than significant. Operation of the proposed replacement pump station and tank, and its associated pipelines, would typically be limited to routine inspections and maintenance. Little or no water requiring discharge into the proposed Project area's existing stormwater drainage system would occur.

There is the potential for water quality contamination from heavy equipment spills in staging and refueling areas, as leaked or spilled pollutants could wash into a stormwater drains during a storm event and degrade the water quality. As Project construction would comply with the proposed Project's SWPPP, potential impacts associated with water contamination would be expected to be less than significant.

Dewatering would not be necessary, as ground water is at 1,670 feet, and excavation would occur down to a maximum of 1,700 feet, causing no adverse impacts to groundwater. Additionally, the proposed Project is not located within a 100-year floodplain, and is therefore not expected to expose people or structures to a significant risk of loss, injury or death involving flooding. The Project is not located in a region where it is at risk for inundation by seiche, tsunami, or mudflow (County of Los Angeles, 2016a; City of Los Angeles, 2015a, 2015b).

Land Use and Planning

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to land use and planning. Construction and operation of the proposed Project would not:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Explanation

The existing Redmont Pump Station is located at the northeast corner of the North Tujunga Canyon Boulevard and Summitrose Street intersection, and consists of the station itself and the Redmont Reservoir, which is a below-ground, covered water storage reservoir (GoogleEarth, 2016). The proposed Project is located in the community of Tujunga (at the site of the existing Redmont Pump Station and Reservoir), which is in the jurisdictional boundaries of the City of Los Angeles (City of Los Angeles, 1997, 2016a). The proposed Project site is surrounded by single family residences, and there is no designated open space within the vicinity of the site. The proposed Project would not divide an established community, as the Project is within the LADWP's existing property boundary.

Current and future uses of the pump station site are not in compliance with the current land use designation of residential zoning. A zoning variance would be required since the Project is located in a R1-1-RFA (low density residential) zone. The LADWP would also request a variance from setback or height restrictions due to the space constraints at the site. The proposed future tank location would protrude

into the front yard building line, which would also require a zoning variance. The LADWP would apply for a waiver from Bureau of Engineering Highway Dedication specific to the following highway dedication requirements:

- 10-foot dedication at Redmont Avenue
- 12-foot dedication at Tujunga Canyon
- 20-foot dedication at Summitrose Street

Upon receipt of these variances and waivers, the Project would not conflict with zoning plans. As the Project is not located within boundaries of any adopted habitat conservation plans or natural community conservation plans, it would have no impact on a conservation plan.

Mineral Resources

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to mineral resources. Construction and operation of the proposed Project would not:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Explanation

The proposed Project would not result in the loss of availability of known mineral resources, as there are no producing sites within the region. The proposed Project is not located within a MRZ-2 zone, which is land classified as containing identified mineral resources (City of Los Angeles, 2016a; DOC, 2016c). Additionally, the proposed Project is not located in an area designated as containing locally important mineral resources (City of Los Angeles, 2001). Therefore, the proposed Project would have no impact on mineral resources.

Population and Housing

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to population and housing. Construction and operation of the proposed Project would not:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;
- Displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

Explanation

The proposed Project would not generate a permanent increase in population levels or a decrease in available housing because construction would be performed by crews or contractors from within the City of Los Angeles, primarily LADWP in-house crews. No new jobs would be created during operation that would result in a population increase. The proposed Project also would not displace housing because it is located on an existing LADWP facility site, which would not interfere with surrounding residences. Therefore, the proposed Project would have no impact on population and housing (US Census, 2016).

Public Services

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to public services. Construction and operation of the proposed Project would not:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire protection
  - Police protection
  - Schools
  - Parks
  - Other public facilities

Explanation

Operation of the proposed Project would not pose any issues relating to public services, as the nature of the site would be similar to its current use. The proposed Project would not involve building of residences, nor would it require additional LADWP employees. As such, the Project would not reduce officer to population ratios or place additional demand on public services provided by the Los Angeles Fire Department and the Los Angeles Police Department (LAFD, 2016; LAPD, 2016). The proposed Project is not population growth inducing, as it is an infrastructure replacement project. Therefore there would be no demand for new or expanded schools, new or expanded parks, or new or expanded public facilities.

Recreation

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to recreation. Construction and operation of the proposed Project would not:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Explanation

The proposed Project involves the construction and operation of a public utility facility on a City of Los Angeles-owned (i.e., LADWP) site. The proposed Project would not result in short-term or long-term population growth that would increase demand for recreational facilities, nor would it result in an accelerated deterioration of recreational facilities. The proposed Project would not include the construction or expansion of recreational facilities. Therefore, the proposed Project would have no impact on recreation and recreational facilities (City of Los Angeles, 2016d).

Utilities and Service Systems

CEQA Checklist Topics

The proposed Project would not result in potentially significant effects to utilities and service systems. Construction and operation of the proposed Project would not:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in additional to the providers existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Conflict with federal, state, and local statutes and regulations related to solid waste.

Explanation

During proposed construction and demolition activities, the amount of wastewater generated into the Los Angeles City sanitary sewer system would be considered a short-term minimal impact and would not result in a permanent increase to the Hyperion Treatment Plant (HTP) that would receive the wastewater (City of Los Angeles, 2016e). The HTP has sufficient capacity, and there would be no need for new water/wastewater treatment facilities. The proposed Project would not cause exceedances of wastewater treatment requirements of the applicable Regional Water Quality Control Board. Upon completion of the proposed Project, little or no further wastewater would be generated, as activities would be limited to inspection and maintenance.

The LADWP is responsible for supplying, conserving, treating, and distributing potable water for the City of Los Angeles, including existing operations at Redmont Pump Station and proposed operation of the replacement pump station. The LADWP obtains water from wells in local groundwater basins and the Los Angeles Aqueduct System, purchases water from the Metropolitan Water District of Southern California, and also receives recycled water from treatment and reclamation plants. The proposed Project would require water during proposed construction and demolition activities for dust suppression purposes, and for hydrostatic testing of the proposed pipelines, which would require an estimated 50,000 gallons of

water. Due to the short-term nature of proposed construction and demolition activities, the water consumed would be considered less than significant and would not impact the local water supply. Additionally, the proposed Project would not result in a need for the construction of new stormwater drainage facilities or the expansion of existing facilities.

Approximately 2,667 cubic yards of soil excavation is expected, and demolition would include removal of the reservoir liner, columns, roof, and pump station. Upon completion of the proposed Project, no permanent increase in solid waste generation would occur. Within the City of Los Angeles, solid waste management, including collection and disposal services and landfill operation, is administered by various public agencies and private companies with the capacity to accommodate the Project's solid waste disposal needs (CalRecycle, 2016a). The LADWP complies with all applicable laws and regulations related to solid waste generation, collection, and disposal in the County of Los Angeles. The proposed Project would result in a short-term and temporary increase in solid waste generation during proposed construction and demolition activities, but would not, directly or indirectly, affect the standard solid waste operations of any landfill facility. Proposed recycling activities during construction and demolition would ensure that the proposed Project would be in compliance with the California Integrated Waste Management Act of 1989 (AB 939), the County of Los Angeles Source Reduction and Recycling Element, and the County of Los Angeles Countywide Integrated Waste Management Plan (CalRecycle, 2016b; County of Los Angeles, 1993, 2015).

3.2 Air Quality and Greenhouse Gas Emissions

Introduction

This section describes effects associated with air quality and greenhouse gas emissions that would be caused by implementation of the Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the proposed Project, and recommends measures to reduce or avoid significant impacts anticipated from Project construction, operation, and maintenance. In addition, existing laws and regulations relevant to air quality and greenhouse gas emissions are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the proposed Project.

Scoping Issues Addressed

During the scoping period for the EIR written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The South Coast Air Quality Management District (SCAQMD, 2016a) submitted a scoping comment letter that included comments specific to the air quality analysis. The issues presented in the SCAQMD letter are addressed in this section, and the key issues from the letter are summarized below.

- Recommend using SCAQMD California Environmental Quality Act (CEQA) guidance and requested appropriate analysis of construction and operation air pollutant emissions impacts including localized health impacts.
- Feasible mitigation should be provided to reduce significant adverse air quality impacts. Sources to identify possible mitigation measures are listed in the letter.

3.2.1 Environmental Setting

Air Quality

Regional Climate

The Project area has a climate that is characterized by hot, dry summers and cool winters with a moderate amount of seasonal precipitation that occurs primarily during the winter months. Summers typically have clear skies, warm temperatures, and low humidity. A monthly climate summary for Tujunga is provided below in Table 3.2-1. The average summer (June to September) high and low temperatures in Tujunga range from 95°F to 50°F. Average winter (December to March) high and low temperatures range from 68°F to 36°F. The average annual precipitation is approximately 14 inches with almost 80 percent of the precipitation occurring between December and March.

Table 3.2-1. Tujunga Monthly Average Temperatures and Precipitation			
	Temperature (ºF)		
Month	Maximum	Minimum	Precipitation
January	64	36	2.99
February	66	37	3.50
March	68	38	3.03
April	74	41	0.63
May	70	45	0.22
June	88	50	0.01
July	94	54	0.01
August	95	55	0.11
September	91	52	0.27
October	82	46	0.36
November	72	39	1.22
December	65	36	1.61

Source: Intellicast, 2015

Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: (1) "criteria" pollutants, representing six pollutants for which national and State health- and welfare-based ambient air quality standards have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have ambient air quality standards. The three TACs that do have ambient air quality standards (lead, vinyl chloride, and hydrogen sulfide) are pollutants that are not relevant to the proposed Project.

Criteria Pollutants

The U.S. Environmental Protection Agency (USEPA), California Air Resources Board (ARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS) relevant to the proposed Project are provided in Table 3.2-2. Table 3.2-3 summarizes the federal and State attainment status of criteria pollutants for the SCAQMD based on the NAAQS and CAAQS, respectively.

Table 3.2-2. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O_3)	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour	0.070 ppm	0.070 ppm	
Respirable particulate matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m^3	--	
Fine particulate matter (PM2.5)	24-hour	--	35 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual [1]	12 µg/m^3	12 µg/m^3	
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
Nitrogen dioxide (NO_2)	1-hour	0.18 ppm	0.100 ppm [2]	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	0.075 ppm [2]	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Notes:
ppm = parts per million; µg/m3 = micrograms per cubic meter; "--" = no standards
1 – The federal standard shown is the primary standard; the secondary standard is 15 µg/m^3.
2 – The new federal 1-hour NO2 and SO2 standards are based on the 98th and 99th percentile of daily hourly maximum values, respectively.
Source: CARB, 2015a; CARB, 2001

Table 3.2-3. Attainment Status for the SCAB

Pollutant	Attainment Status	
	Federal	State
O_3	Extreme Nonattainment	Nonattainment
PM10	Attainment/Maintenance	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment/Maintenance	Attainment
SO_2	Attainment	Attainment

Source: CARB, 2015b; USEPA, 2015

Table 3.2-4 summarizes the historical air quality data for the Project area collected at the nearest representative air quality monitoring stations to Tujunga. The air monitoring station used for ozone (except for 2013, which uses the Burbank monitoring station), PM2.5, and CO is located in Pasadena, while the air monitoring station used for PM10 and SO_2 is located in Burbank. Table 3.2-4 presents the maximum pollutant levels measured from the monitoring stations from 2012 through 2014.

Table 3.2-4. Background Ambient Air Quality Data

Pollutant	Averaging Time	Maximum Concentration (ppm or µg/m³) [1]		
		2012	2013	2014
O_3	1-hour	0.111	0.110	0.124
	8-hour	0.086	0.083	0.096
PM10	24-hour	55	52	60
	Annual	26.4	28.5	31.2
PM2.5	24-hour [2]	24.2	20.5	--
	Annual	10.1	10.1	--
CO	8-hour	1.6	1.7	1.8
NO_2	1-hour [2]	0.056	0.060	0.060
	Annual	0.017	0.019	0.017
SO_2	1-hour [2]	0.003	0.004	0.004

Notes:
ppm = parts per million; µg/m³ = micrograms per cubic meter; "—" = no data
1 – Gaseous pollutant (ozone, SO_2, NO_2, and CO) concentrations are shown in ppm and particulate (PM10 and PM2.5) concentrations are shown in µg/m³.
2 – 24-hour PM2.5 data and 1-hour NO_2 data shown are the 98th percentile values and SO_2 for 2011 and 2012 are 99th percentile values.
Source: SCAQMD, 2015a.

The ambient air quality data shown above indicates that in the 3 years of data collection, the Western San Gabriel Valley and surrounding areas had experienced exceedances of the federal and State ozone standards, and State PM10 standards. No exceedances of the federal and State PM2.5, CO, NO_2, or SO_2 standards or federal PM10 standard were observed.

Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. There are almost 200 compounds designated in California regulations as TACs (17 CCR §§ 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants pursuant to Section 112(b) of the federal Clean Air Act (CAA) [42 U.S.C. §7412(b)]. Some of the TACs are groups of compounds that contain many individual substances (e.g., copper compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources, including diesel engines; industrial processes; and stationary sources such as dry cleaners, gasoline stations, paint and solvent operations, and stationary fossil fuel-burning combustion. Ambient TACs concentrations tend to be highest in urbanized and industrial areas near major TACs emissions sources or near major mobile TACs emissions sources, such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants, no regular monitoring and reporting of all ambient TACs concentrations, such as diesel particulate matter (DPM) concentrations, are performed in the SCAB. Generally, TACs do not have ambient air quality standards. The one TAC that does have a federal ambient air quality standard is lead, which is currently designated as nonattainment of the federal standard within the southern Los Angeles County portion of the SCAB. There are three TACs that have State ambient air quality standards: lead, vinyl chloride, and hydrogen sulfide; the entire SCAB is in attainment with these State ambient air quality standards. None of these three TACs with ambient standards are relevant to the emissions sources for this Project.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus Coccidioides immitis (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (CDPH, 2013).

Most people exposed to the CI spores will not develop the disease, and of every 100 persons who are infected approximately 60 will have no symptoms, 40 will have some symptoms, and 2 to 4 will have the more serious disseminated forms of the disease. After recovery, nearly all, including the asymptomatic, develop a life-long immunity to the disease (Guevara, 2014). African Americans, Asians, women in the third trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (CDC, 2013). In addition to humans, a total of 70 different species are known to be susceptible to Valley Fever infections, including dogs, cats, and horses, with dogs being the most susceptible (LACPH, 2007).

The Project is located in an area designated as suspected endemic for Valley Fever by the Center for Disease Control (CDC, 2013). Annual case reports for 2000 through 2013 from the California Department of Public Health indicate that Los Angeles County has reported incident rates for Valley Fever that range from a rate of 0.8 to 4.0 cases per year per 100,000 population (CDPH, 2011; CDPH, 2015). These incidence rates for Los Angeles County, while rising since 2000, have remained below the State average incidence rates and have been well below the worst-case annual rates for other counties within the State during this period, occurring within the San Joaquin Valley, where in some years there have been over 300 cases per 100,000 population. Given the low incidence rate in Los Angeles County as a whole, the potential for Project construction activities to encounter and disperse CI spores and create the potential for additional Valley Fever infections is considered low.

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance (SCAQMD, 2005), sensitive receptor locations include those where persons who are particularly susceptible to health effects due to exposure to an air contaminant can be found. This includes schools, playgrounds, daycare centers, retirement homes, rehabilitation and convalescent centers, hospitals, and residences.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Residential areas can also be sensitive to air pollution due to high exposure periods for individuals that do not leave their residences often. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend

to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

The Project site is located in a residential neighborhood. There are two residences located directly adjacent to the northern wall of the Project site and other residences across each of three streets that border the site. The nearest schools are the Our Lady of Lourdes School located approximately 430 meters south of the Project site and the Verdugo Hills High School and adjacent Mt. Lukens Continuation High School, both located approximately 500 meters west of the Project site.

Greenhouse Gas Emissions

Climate Change

While climate change has been a concern since at least 1998, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), efforts devoted to GHG emissions reduction, and climate change research and policy have increased dramatically in recent years.

Global climate change (GCC) is expressed as changes in the average weather of the Earth, as measured by change in wind patterns, storms, precipitation, and temperature. Much scientific research has indicated that the human-related emissions of GHGs above natural levels are likely a significant contributor to GCC.

Because the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans, the area of influence for GHG impacts associated with the proposed Project would be global. However, those cumulative global impacts would be manifested as impacts on resources and ecosystems in California.

Description of Greenhouse Gases

Greenhouse gases are gases that trap heat in the atmosphere and are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and by industry include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The accumulation of GHGs in the atmosphere regulates the earth's temperature. GHGs have varying amounts of global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO_2 is assigned a GWP of 1. In comparison, CH_4 per the IPCC's Fourth Assessment Report has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. To account for their GWP, GHG emissions are often reported as CO_2e (CO_2 equivalent). The CO_2e for a source is calculated by multiplying each GHG emission by its GWP, and then adding the results together to produce a single, combined emission rate representing all GHGs.

3.2.2 Regulatory Setting

Sources of air pollutant emissions in the SCAB are regulated by the USEPA, CARB, and SCAQMD. The role of each regulatory agency is discussed in this section.

Air Quality

Federal

United States Environmental Protection Agency

Federal Clean Air Act

The federal CAA of 1970 and its subsequent amendments form the basis for the nation's air pollution control effort. The USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the establishment of NAAQS for criteria air pollutants (see Table 3.2-2), hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA allows the delegation of the enforcement of many of the federal air quality regulations to the states. In California, the CARB is responsible for enforcing air pollution regulations. In western Riverside County, the SCAQMD has this responsibility. In addition, the SCAQMD and the CARB are the responsible agencies for providing attainment plans and meeting attainment with the NAAQS; and the USEPA reviews and approves these plans and regulations, which are designed to attain and maintain attainment with the NAAQS.

Specific federal regulations that are applicable to the Project, either directly or indirectly, and that are enforced by federal agencies are listed below.

State Implementation Plan

For areas that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the state will attain and maintain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD and Southern California Association of Governments (SCAG) have developed air quality management plans (AQMPs). The focus of the 2003 AQMP was to demonstrate attainment of the federal PM10 standard by 2006 and the federal 1-hour O_3 standard by 2010, while making expeditious progress toward attainment of State standards (SCAQMD, 2003). The 2003 AQMP also includes an NO_2 maintenance plan.

The SCAQMD and SCAG, in cooperation with the ARB and the USEPA, have developed the 2007 AQMP for purposes of demonstrating compliance with the new NAAQS for PM2.5, the NAAQS for PM10, the 8-hour O_3 NAAQS, the 1-hour O_3 NAAQS, and other air quality planning requirements. The 1-hour O_3 standard was revoked by the USEPA, but the SCAQMD is still tracking progress towards attainment of this standard. The SCAQMD Governing Board adopted the Final 2007 AQMP on June 1, 2007 (SCAQMD, 2007).

The AQMD Governing Board approved the 2012 AQMP on December 7, 2012 (SCAQMD, 2012). This plan addresses the 1-hour and 8-hour Ozone Plan inadequacies identified by the USEPA, and provides a 24-hour PM2.5 plan. However, this AQMP has not yet been approved by the USEPA, so it is not the applicable AQMP for CEQA review.

Currently, the 2009 Maintenance Plan is the applicable plan for PM10, and the 2007 AQMP is the applicable plan for ozone and PM2.5.

New Source Performance Standards (NSPS)

The NSPS regulation that would be applicable to this project is 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The new emergency standby IC engine will need to meet the criteria pollutant emissions standards, monitoring, and reporting requirements of this regulation.

National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

The NESHAPs regulation that would be applicable this project is 40 CFR Part 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The new emergency standby IC engine will need to meet the air toxics (namely DPM) emissions standards, monitoring, and reporting requirements of this regulation.

Emission Standards for Non-Road Diesel Engines

The USEPA has established a series of cleaner emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004 (USEPA, 2004a). The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008.

The Tier 4 standards complement the latest 2007 and later on-road heavy-duty engine standards by requiring 90 percent reductions in DPM and NOx when compared against current emission levels. The Tier 4 standards are currently being phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NOx and PM standards in 2015.

Non-Road Diesel Fuel Rule

In May 2004, the USEPA set sulfur limits for non-road diesel fuel. Under this rule, sulfur levels in non-road diesel fuel would be limited to 500 ppm starting in 2007 and 15 ppm starting in 2010 (USEPA, 2004b), at which time it would be equivalent to sulfur content restrictions of the California Diesel Fuel Regulations (described below).

Emission Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, the USEPA established a series of cleaner emission standards for new engines, starting in 1988. These emission standards regulations have been revised over time. The latest effective regulation, the 2007 Heavy-Duty Highway Rule, provides for reductions in PM, NOx, and non-methane hydrocarbon emissions that were phased in during the model years 2007 through 2010 (USEPA, 2000).

State

California Air Resources Board

California Clean Air Act

In California, the CARB is designated as the responsible agency for all air quality regulations. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible

for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain the CAAQS for ozone, NO2, SO2, and CO by the earliest practical date. Since the CAAQS are often more stringent than the NAAQS, attainment of the CAAQS will require more emission reductions than what is required to demonstrate attainment of the NAAQS. Similar to the federal requirements, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region. Additional information regarding the CAAQS is provided in Table -2.

Other CARB regulations promulgated under the authority of the CCAA that are relevant, directly or indirectly, to the Project are described below.

California Diesel Risk Reduction Plan

CARB has adopted several regulations that are meant to reduce the health risk associated with on- and off-road, and stationary diesel engine operation. This plan recommends many control measures with the goal of an 85 percent reduction in DPM emissions by 2020. The regulations noted below, which may also serve to significantly reduce other pollutant emissions, are all part of this risk reduction plan.

Emission Standards for On-Road and Off-Road Diesel Engines

The CARB, similar to the USEPA on-road and off-road emissions standards, regulations described above, has established emission standards for new on-road and off-road diesel engines. These regulations have model year based emissions standards for NOx, hydrocarbons, CO, and particulate matter (PM).

In-Use Off-Road Vehicle Regulation

The State has also enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use, off-road, diesel-fueled vehicles (CCR Title 13, Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for PM and NOx emissions from owners of fleets of diesel-fueled, off-road vehicles, and applies to off-road equipment fleets of three specific sizes, where the target emission rates are reduced over time. Specific regulation requirements include:

- Limits on idling, requiring a written idling policy, and disclosure when selling vehicles;
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits) (CARB, 2014).

The construction contractor(s) who completes the construction activities for the proposed Project, including LADWP, if they use their own off-road equipment fleet, would have to comply with the requirements of this regulation.

Heavy Duty Diesel Truck Idling Regulation

This CARB rule became effective February 1, 2005, and prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time, unless they are queuing, provided the queue is located beyond 100 feet from any homes or schools (CARB, 2006).

California Diesel Fuel Regulations

In 2004, the CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles (Title 13, CCR, Sections 2281-2285 and Title 17, CCR, Section 93114). Under this rule, sulfur content of diesel fuel would be limited to 15 ppm starting in June 2006 (CARB, 2004).

Statewide Portable Equipment Registration Program (PERP)

The PERP establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB, 2005). Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months.

Local

South Coast Air Quality Management District

The SCAQMD is primarily responsible for planning, implementing, and enforcing federal and State ambient standards within this portion of the SCAB. As part of its planning responsibilities, SCAQMD prepares AQMPs and Attainment Plans, described above in Section C.4.2.1, as necessary based on the attainment status of the air basins within its jurisdiction. The SCAQMD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by the USEPA.

Through the attainment planning process, the SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB (SCAQMD, 2015b). This Project would not include any stationary or portable stationary emissions sources that would be subject to SCAQMD air quality permitting regulations. The SCAQMD rules applicable to the proposed Project are listed below.

Regulation II – Permits.

Rules within this regulation specify the types of equipment that must obtain permits to construct and operate. For this Project the emergency standby IC engine would require a permit from SCAQMD.

SCAQMD Rule 401 – Visible Emissions.

This rule prohibits discharge of air contaminants or other materials that are as dark or darker in shade as designated No. 1 on the Ringelmann Chart, or at an equivalent opacity, for a period or periods greater than three minutes in one hour.

SCAQMD Rule 402 – Nuisance.

This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 – Fugitive Dust.

The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. The rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area to be visible beyond the emission source's property line. During Project construction, best available control measures identified in the rule (Table 1 of this rule) would be

required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include watering as necessary to maintain sufficient soil moisture content.

Additional Rule 403 requirements apply to large operations, which is defined as active operations on property that contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 5,000 cubic yards or more, three times during the most recent 365-day period. These requirements include submittal of a project notification, maintaining dust control records, and designating a SCAQMD-certified dust control supervisor. The proposed Project's construction should not exceed these two triggers, and so should not be subject to these additional Rule 403 requirements.

SCAQMD Rule 431.2 – Sulfur Content of Liquid Fuels.

Compliance with this regulation is ensured with the use of California diesel fuel for the emergency standby IC engine.

SCAQMD Regulation IX – Standards of Performance for New Stationary Sources.

This regulation makes specified federal NSPS regulations part of the Rules and Regulations of the SCAQMD, including NSPS subpart IIII. This regulation would only apply to the proposed new emergency standby diesel IC engine.

SCAQMD Regulation XI – Source Specific Standards.

This regulation is composed of several dozen individual rules, most of which are not applicable to this Project. Specific rules that may be applicable include:

Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines.

- This rule sets emissions specifications, which are assumed to be meet through proper engine selection and confirmed during the permitting process for the emergency standby IC engine.

Rule 1113 – Architectural Coatings.

- This regulation, which sets Volatile Organic Compound (VOC) content limits to all surface coatings (i.e. paint) used within SCAQMD jurisdictional borders, would apply to any surface coatings used during the Project's construction and O&M.

Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil.

- This regulation would only be applicable in the very unlikely event that contaminated soils are discovered during Project excavation work.

Regulation XIII – New Source Review.

- As part of the permitting for the new emergency standby IC engine, the District's new source review rules, specifically Rule 1303 will apply. The primary rule requirement that would apply to the emergency standby IC engine is that the engine will have to meet Best Available Control Technology (BACT) requirements. The use of the highest commercially available engine tier for emergency standby engines and compliance with Rule 1470 should fulfill this requirement. The new emergency standby IC engine is exempt from the emissions offset and air quality modeling requirements of this regulation.

Regulation XIV – Toxics and Other Non-Criteria Pollutants.

- This regulation includes new source review requirements for sources of air toxics emissions and also includes source-specific regulations. The new emergency standby IC engine is exempt from the Rule 1401 requirements (New Source Review of Toxic Air Contaminants) and this Project site is located over 1,000 feet from the nearest school so the engine would also not be subject to review under Rule 1401.1 (Requirements for New and Relocated Facilities Near Schools). The applicable rules under this regulation include the following:

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities.

- This regulation would be applicable in the event that asbestos-containing materials are present in the structures that are to be demolished as part of the Project.

Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines.

- The new emergency standby IC engine would be subject to parts of this rule, including the subpart (C)(iv)(I) emissions standards for PM emissions for engines located 50 meters or less from a sensitive receptor (DPM emissions limit of 0.01 g/bhp-hr), other criteria pollutant emissions standards, and various operating restrictions and monitoring requirements.

City of Los Angeles General Plan

Air Quality Element

The air quality element of the General Plan contains a number of goals, objectives, and policies. The goals, objectives, and policies applicable to the Project, specifically dust control, are addressed in the SCAQMD rules and regulations.

Greenhouse Gas Emissions

All levels of government have some responsibility for the protection of air quality, and each level (federal, State, and regional/local) has specific responsibilities relating to air quality regulation. Regulation of GHGs is a relatively new component of air quality. Several legislative actions have been adopted to regulate GHGs on a federal, State, and local level.

Federal

Massachusetts v. EPA

In April 2007, the U.S. Supreme Court held that GHG emissions are pollutants within the meaning of the CAA. In reaching its decision, the court also acknowledged that climate change results, in part, from anthropogenic causes (*Massachusetts et al. Environmental Protection Agency* 549 U.S. 497, 2007). The Supreme Court's ruling paved the way for the regulation of GHG emissions by USEPA under the CAA.

Clean Air Act

The federal CAA of 1970 and its subsequent amendments form the basis for the nation's air pollution control effort. The USEPA is responsible for implementing most aspects of the CAA. Under the provisions of the CAA to protect public health and welfare, the USEPA has the authority to regulate GHGs, should a finding be made that GHGs have the potential for adverse impacts.

In response to the Supreme Court decision on December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** That the current and projected concentrations of the GHGs in the atmosphere threaten the public health and welfare of current and future generations, and
- **Cause or Contribute Finding:** That the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

USEPA has enacted a number of regulations and other environmental rules regarding GHG emissions, including:

- Mandatory GHG Reporting,
- GHG Tailoring Rule for PSD Permits,
- GHG Vehicle Emissions Standards,
- Corporate Average Fuel Economy Standards, and
- Renewables Fuel Standard.

None of these federal regulations are specifically relevant to the construction or operation of the proposed Project.

State

In California, ARB is designated as the responsible state agency for traditional air quality regulations. In addition, Assembly Bill (AB) 32 vested ARB with regulatory authority for GHGs. California is one of several states that have set GHG emission targets. Executive Order S-3-05 and AB 32, the California Global Warming Solutions Act of 2006 promulgated targets to achieve reductions in GHG to 1990 GHG levels by the year 2020. This target-setting approach allows progress to be made in addressing climate change, and is a forerunner to setting emission limits.

AB 32 – California Global Warming Solutions Act of 2006

AB 32 was signed into law by Governor Schwarzenegger on September 27, 2006, and is the first law to comprehensively limit GHG emissions at the State level. The intent of AB 32 is to reduce California GHG emissions to 1990 levels by 2020. AB 32 instructs the ARB to adopt regulations that will reduce emissions from significant sources of GHG and establish a mandatory GHG reporting and verification program by January 1, 2008. AB 32 requires the ARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which became effective on January 1, 2012. AB 32 does not identify a significance level of GHG for CEQA purposes, nor has the ARB adopted such a significance threshold.

In accordance with AB 32, the ARB approved the Climate Change Scoping Plan (Scoping Plan) (CARB, 2008) in October 2008, which outlines California's strategy for achieving the 2020 GHG emissions limit outlined under the law. The Scoping Plan includes recommendations for reducing GHG emissions from most sectors of the California economy, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. The AB 32 Scoping Plan update was approved at an Air Resources Board Hearing on May 22, 2014.

Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the Cal/EPA to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California," and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

California Senate Bill 97

Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the Governor's Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directs the California Natural Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The OPR published a technical advisory on CEQA and Climate Change on June 19, 2008. The guidance did not include a suggested threshold, but stated that the OPR has asked the ARB to, "…recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state."

The OPR does recommend that CEQA analyses include the following components:

- Identify Greenhouse Gas Emissions
- Determine Significance
- Mitigate Impacts

On December 30, 2009, the California Natural Resources Agency adopted amendments to the CEQA Guidelines including GHG/Climate Change analysis guidelines. According to the California Natural Resources Agency (CNRA, 2009), "…due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis." Two GHG CEQA checklist questions were included as part of the CEQA Guidelines amendment; they are discussed further in Section 3.3.3.

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good-faith effort, to the extent possible and based on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
2. Rely on a qualitative analysis or performance-based standards.

Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Title 24 Building Energy Efficiency Standards

The new pump station building will have to be designed to meet applicable parts of the Title 24 standards. This would include meeting the requirements for use of various building materials, lighting control, roofing material, etc.

Local

South Coast Air Quality Management District

To date, the SCAQMD has developed two regulations regarding GHG emissions (SCAQMD, 2015b). Those regulations are:

SCAQMD Rule 2701 – SoCal Climate Solutions Exchange.

- This rule establishes a voluntary program to encourage, quantify, and certify voluntary high-quality certified GHG emission reductions in the district; and

SCAQMD Rule 2702 – Greenhouse Gas Reduction Program.

- This program will fund projects through contracts in response to requests for proposals or purchase GHG emission reductions.

These two SCAQMD rules are not applicable to the proposed Project.

City of Los Angeles

The City of Los Angeles' Green LA Climate Action Plan identifies increasing the efficiency of water distribution facilities as plan goals. The rebuilding of the Redmont pump station would increase its efficiency and meet this goal. This plan also has goals related to minimizing building energy consumption.

3.2.3 Thresholds of Significance and Methodology

An analysis of the impacts associated with air quality and GHG emissions during implementation of the proposed Project is described in Section 3.2.4. The following section lists the thresholds used to conclude the significance of an impact and describes the methods used to determine the proposed Project's impacts. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion in Section 3.2.4, as needed.

Air Quality

Thresholds of Significance

The significance of potential air quality impacts were determined based on relevant State CEQA Guidelines, Appendix G. Project construction and operation would have significant air quality impacts if it would:

- Criterion AIR1: The Project conflicts with or obstructs implementation of the applicable air quality plan.
- Criterion AIR2: The Project violates any air quality standard or contributes substantially to an existing or projected air quality violation.
- Criterion AIR3: The Project results in cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The regional thresholds of significance for construction activities and project operations as shown below in Table 3.2-5 were used in this EIR to determine the significance of Project air quality impacts. These criteria are based on CEQA thresholds recommended by the SCAQMD (SCAQMD, 2015c).

Table 3.2-5. SCAQMD Regional Air Quality Emissions Significance Thresholds

Regional Emissions Significance Criteria		
Pollutant	Construction	Operation
NO_x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM10	150 lbs./day	150 lbs./day
PM2.5	55 lbs./day	55 lbs./day
So_x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day

Source: SCAQMD, 2015c

- Criterion AIR4: The Project exposes sensitive receptors to substantial pollutant concentrations.

SCAQMD published localized thresholds of significance (LST) that are used to determine impacts on ambient air quality for off-site sensitive receptors. The published LSTs for construction activities and project operations, as shown below in Table 3.2-6, were used in this EIR to determine the significance of Project air quality impacts. These criteria are based on CEQA thresholds recommended by the SCAQMD (SCAQMD 2015c). The emissions impacts of TACs are also evaluated under this impact statement, and SCAQMD's thresholds for air toxics impacts are also shown in Table 3.2-6.

Table 3.2-6. SCAQMD LST and TACs Air quality emissions significance thresholds		
Localized Significance Criteria		
Pollutant	Construction	Operation
NOx	69 lbs./day	69 lbs./day
CO	535 lbs./day	535 lbs./day
PM10	4 lbs./day	1 lbs./day
PM2.5	3 lbs./day	1 lbs./day
TACs (includes carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard Index ≥ 1.0 (project increment)	

Source: SCAQMD, 2015c; 2015d

The Project is located in Source Receptor Area (SRA) 8 (West San Gabriel Valley). As the actual site acreage of the facility is less than half an acre, so the LSTs are based on a one-acre site. The LST values shown above, given that the site is adjacent to residences, are based on the minimum LST table distance to receptor of 25 meters.

- Criterion AIR5: The Project creates objectionable odors affecting a substantial number of people.

Emission Calculations Methodology

Construction Emissions

The Project's construction would involve demolition of the existing pump station and tank and the construction of the new pump station and tank. Construction emissions would result from the use of construction equipment and trips generated by construction workers and heavy haul trucks, and from earth-moving activities and paved/unpaved road travel that would cause fugitive dust emissions. Construction activities would generate emissions of criteria air pollutants VOCs, NO_x, CO, PM10, PM2.5, and sulfur oxides.

Equipment usage and scheduling data needed to calculate emissions for proposed construction activities were estimate by LADWP. Air pollutant emissions from the proposed construction activities were calculated using emissions factors derived from the latest version of the CARB EMFAC and OFFROAD programs, and USEPA and SCAQMD emission factors or assumptions for fugitive dust emissions calculation. Emission factors for on-road and off-road equipment were developed for each of the years of construction assuming fleet-wide average emissions factors for the South Coast Air Basin. Fugitive dust emissions factors were calculated assuming dust control compliance with SCAQMD Rule 403 – Fugitive Dust.

For more information on the construction emissions calculation methodology, assumptions, and the detailed calculations, please refer to Appendix C.

Operation Emissions

This Project requires minimal operations and maintenance activities and there will not be any regular on-site employees; the existing ongoing maintenance activities would not increase as a result of the Project. The emissions from the new emergency standby IC engine would generally be negligible given it would generally only be operated for monthly testing purposes. Additionally, although the new IC engine would be larger than the existing engine, emissions for most pollutants would likely be reduced

due to the reduced emissions standards requirements for newly permitted emergency standby engines. Therefore, operating emissions were not estimated, as any increases from baseline would be negligible.

Environmental Controls

The applicant has not proposed any environmental controls directly related to reducing construction or operation air pollutant emissions other than those required by existing regulations. The applicant has committed to reducing indirect air pollutant and GHG emissions through the recycling of construction wastes (i.e. concrete, asphalt, and metal wastes). Fugitive dust emissions during construction would be controlled through compliance with SCAQMD Rule 403, and the new emergency standby diesel fueled IC pump engine would meet current BACT, NSPS, and Rule 1470 emissions standards.

Greenhouse Gas Emissions

Thresholds of Significance

Appendix G of the CEQA Guidelines presents significance criteria that may be used by the lead agency to address and evaluate significance of an impact. According to these Guidelines, the following criteria may be used to establish the significance of GCC emissions:

- Criterion GHG1: The Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Criterion GHG2: The Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. For industrial projects, a significance threshold of 10,000 metric tons of CO_2e emissions per year was determined and this threshold is now included in the SCAQMD Air Quality Significance Thresholds table (SCAQMD, 2015c). Construction GHG emissions are required to be included, amortized over the Project life, in the Project's annual GHG emissions totals.

Emissions Calculations Methodology

Direct GHG emissions during construction would result from the construction equipment and vehicle fuel use. Indirect emissions from incremental on-site electricity consumption during construction would be negligible. GHG emissions during construction were calculated by CalEEMod.

This Project requires minimal operations and maintenance and will not have on-site employees. The incremental direct GHG emissions of the new emergency standby IC engine, considering that the new engine is larger than the existing engine, would be minimal, as those emissions would result from occasional engine testing. Also, the direct operation and maintenance needs should be reduced; so, the direct operating GHG emissions are considered negligible and were not estimated. The indirect GHG emissions from electricity consumption should be reduced, assuming equivalent future throughput up to each of the higher water zones, because the new pumps will be more efficient than the older pumps that would otherwise have to pump the water. However, to be conservative, the indirect operating GHG emissions from the additional electricity use that would result from the increased water demand were estimated based on the determination of the incremental electricity use from current baseline conditions. This conservative emissions estimate was compared to the SCAQMD threshold. Additionally, the less conservative incremental emissions calculation that compares the Project's indirect GHG emissions to the future no project indirect GHG emissions was also presented.

3.2.4 Environmental Impacts and Mitigation Measures

Air Quality

The Project conflicts with or obstructs implementation of the applicable air quality plan (Criterion AIR1)

Impact AQ-1: The Project would conflict with the approved SCAB ambient air quality plans

The AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the NAAQS and CAAQS. The attainment strategies in this plan include mobile source control measures and clean fuel programs that are enforced at the federal and State levels on engine manufacturers and petroleum refiners and retailers.

The SCAQMD adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. The Project would comply with these regulatory requirements. Therefore, the proposed Project's emissions sources would meet or exceed the emissions control forecasts for all approved AQMP control measures.

Since the 2007 AQMP assumes growth that is consistent with the implementation of this Project, it would not exceed the future growth projections in the 2007 AQMP, and it would not conflict with or obstruct implementation of the SIP. As a result, construction and operation of the proposed Project would conform to the applicable AQMP.

Mitigation Measures for Impact AQ-1

None required.

Level of Significance After Mitigation

Impacts are less than significant for construction and operation.

The Project violates any air quality standard or contributes substantially to an existing or projected air quality violation (Criterion AIR2)

Impact AQ-2: Project construction or operation emissions could significantly impact regional ambient air quality

The proposed Project's construction and operation air pollutant emissions are well below the magnitude needed to cause an air quality standard violation or contribute substantially to an existing or projected air quality standard violation. Therefore, the proposed Project would not significantly impact ambient air quality.

Also, please see the regional emissions analysis provided below under Impacts AQ-3 and AQ-4.

Mitigation Measures for Impact AQ-2

None required.

Level of Significance After Mitigation

Impacts are less than significant for construction and operation.

The Project results in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (Criterion AIR3)

Impact AQ-3: The proposed Project's construction emissions would exceed SCAQMD regional significance thresholds

Pollutant emission calculations related to the proposed Project construction activities includes the emissions from on-road vehicles and off-road equipment utilized during construction, and fugitive PM emissions resulting from earthmoving activities and vehicle travel. Detailed assumptions for the construction phases, including equipment and on-road vehicle use, are provided in Appendix C. Table 3.2-7 compares the maximum daily construction emissions of the Project with the SCAQMD regional significance thresholds.

Table 3.2-7. Maximum Daily Construction Emissions

	VOC	CO	NOx	SOx	PM10	PM2.5
2017 Maximum Construction Emissions (lbs/day)	1.71	11.11	22.59	0.03	13.50	4.84
2018 Maximum Construction Emissions (lbs/day))	4.57	27.27	30.14	0.06	10.53	4.19
2019 Maximum Construction Emissions (lbs/day)	8.21	11.89	17.01	0.02	8.99	3.94
SCAQMD Regional Significance Thresholds (lbs/day)	75	550	100	150	150	55
Exceeds Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Appendix C; SCAQMD 2015c

The maximum daily regional emissions throughout Project construction have been determined to be well below all SCAQMD regional emissions thresholds. Appendix C provides more detailed estimates by construction phase and year.

Mitigation Measures for Impact AQ-3

None required.

Level of Significance After Mitigation

Impacts are less than significant for Project construction.

Impact AQ-4: The proposed Project's operations emissions would exceed SCAQMD regional significance thresholds

As noted previously, the incremental operation emissions for this Project would be negligible; therefore, the proposed Project's operation regional emissions impacts are less than significant.

Mitigation Measures for Impact AQ-4

None required.

Level of Significance After Mitigation

Impacts are less than significant for Project operation.

The Project exposes sensitive receptors to substantial pollutant concentrations (Criterion AIR4)

Impact AQ-5: The Project's construction emissions would exceed SCAQMD Localized Significance Thresholds.

SCAQMD LSTs are used to determine if a project could exceed ambient air quality thresholds for nearby receptors. The LSTs were established by SCAQMD for each SRA within their jurisdiction, and represent on-site emission levels that could cause ambient air quality standard exceedances or substantial contributions to existing exceedances at given distances from the site to nearby receptor locations.

The appropriate LSTs for Project site construction were compared to the assumed reasonably foreseeable maximum localized on-site daily construction emissions in Table 3.2-8.

Table 3.2-8. Maximum Localized Daily Construction Emissions

	CO	NOx	PM10	PM2.5
2017 Maximum On-site Construction Emissions (lbs/day)	9.25	18.18	10.16	3.99
2018 Maximum On-site Construction Emissions (lbs/day))	20.69	22.60	9.94	4.04
2019 Maximum On-site Construction Emissions (lbs/day)	10.73	16.11	7.84	3.64
SCAQMD Localized Significance Thresholds (lbs/day)	535	69	4	3
Exceeds Thresholds?	*No*	*No*	*Yes*	*Yes*

Source: Appendix C; SCAQMD, 2015d

The maximum daily on-site emissions were determined to exceed the SCAQMD LSTs for PM10 and PM2.5 in 2017, 2018, and 2019. The maximum daily on-site CO and NOx emissions were determined to not exceed the SCAQMD LSTs. The primary source of the PM10 and PM2.5 LST exceedances, over 90 percent for 2017 and 2018 and nearly 90 percent for 2019, are fugitive dust; therefore, feasible additional mitigation is focused on reducing the fugitive dust emissions.

Mitigation Measures for Impact AQ-5

AQ-5a **Fugitive Dust Control.** The most effective feasible fugitive dust control method from SCAQMD Rule 403 Table 1 shall be implemented. If after proper implementation of these fugitive dust control measures the visible fugitive dust emissions extend beyond the property then the most effective fugitive dust control method from Table 2 or Table 3 of SCAQMD Rule 403 shall be implemented. Activities will be immediately ceased to implement additional dust control measures if at any time SCAQMD Rule 403 (d)(1) requirements are being violated.

Level of Significance After Mitigation

The additional reduction in fugitive dust emissions for Mitigation Measure AQ-5a, above those already assumed for compliance with Rule 403, cannot be reasonably estimated. Therefore, it is assumed that the localized air quality impacts remain significant and unavoidable for the construction PM10 and PM2.5 emissions.

Impact AQ-6: The Project's operation emissions would exceed SCAQMD Localized Significance Thresholds.

As noted previously, the incremental operation emissions would be negligible; therefore, Project operation emissions would not exceed the SCAQMD LSTs.

Mitigation Measures for Impact AQ-6

None required.

Level of Significance After Mitigation

Impacts are less than significant for Project operation.

Impact AQ-7: The Project's toxic air contaminant emissions could cause SCAQMD health risk thresholds to be exceeded.

The proposed Project's TAC emissions and health risk potential are primarily associated with the DPM emissions during construction. As noted previously, the incremental operation emissions from maintenance activities would be negligible, and given that the new IC engine would have to comply with strict Rule 1470 emissions requirements for DPM emissions, the toxic air contaminant emissions and related health risks during operation of the Project should be lower than from current operations. The emissions of acutely hazardous pollutants are negligible so the potential health risks are all related to long-term effects.

Overall, the on-site construction DPM emissions are low, less than 0.15 pounds per day over the approximate 2-year construction schedule and less than 0.01 pound per day amortized over the OEHHA 30-year lifetime risk period for residential exposures. However, new OEHHA health risk calculation procedures have increased the amount of risk over the short-term, specifically for infants and children, and this Project site is adjacent to residential receptors; a screening level HRA was conducted using assumptions from the SCAQMD Rule 1401 Risk Assessment Calculator (SCAQMD, 2016b) and the CARB Risk Assessment Standalone Tool (RAST) (CARB, 2016). The DPM emissions are best modeled as a volume source over the entire Project site, which is just less than 20,000 square feet. The following assumptions were used to conduct this screening level risk assessment:

- Total construction period on-site DPM emissions of 98.5 pounds, which is all of the off-road equipment DPM emissions (97 pounds) and 10 percent of the on-road DPM emissions (10 percent of 15 pounds).
- The total construction period is approximately two years over a three calendar year period.
- The Rule 1401 Risk Assessment Calculator specifies a "(µg/m3)/(tons/year)" value of 4.4623 for volume sources less than 20 feet high in areas between 10,000 and 30,000 square feet with receptors at 25 meters.
- No credit was given for the small reduction in operation DPM emissions.

Using these assumptions, the worst-case DPM concentration for the worst third trimester plus 2-year infant risk period would be based on an average concentration of 0.0977 µg/m3, and for a full 30-year residential risk period would be based an average concentration of 0.0073 µg/m3. Using these concentrations in the RAST program the cancer risk values are determined to be 3.34×10^{-5} for the infant exposure and 6.32×10^{-6} for the averaged 30-year lifetime exposure. While the area is primarily residential, the cancer burden would be expected to be well below 0.5 due to the fact that cancer risk

will rapidly decrease with distance from the Project site. However, the infant screening level cancer risk value is above the SCAQMD 1 x 10^{-5} cancer risk significance threshold, so the unmitigated health risk impacts would be significant.

Mitigation Measures for Impact AQ-7

AQ-7a **Off-Road Equipment Engine Control.** Off-road construction equipment used at the RPS project site shall meet interim Tier 4 emission standards requirements, or better, to control on-site construction Diesel Particulate Matter emissions.

This mitigation measure could reduce the DPM emissions from the construction off-road equipment, the primary source of the on-site DPM emissions by a factor of ten or greater.

Level of Significance After Mitigation

The risk values should be reduced by as much as or more than a factor of 10, which would reduce the screening level HRA cancer risk values to be below 1 x 10^{-5}. Mitigated impacts would be less than significant for Project construction and operation.

The Project creates objectionable odors affecting a substantial number of people (Criterion AIR5)

Impact AQ-8: The Project's construction or operation would create substantial nuisance odors.

The construction and operation of the facility do not include the use of odorous substances or activities that could cause significant odors. There may be minor odors during construction related to equipment exhaust, very limited asphalt paving operations, and architectural coating of the RPS and RT structures; but none of these odor sources would be overly objectionable and they would not persist in a manner to be able to affect a substantial number of people. Therefore, there will be less-than-significant impacts related to odors.

Mitigation Measures for Impact AQ-8

None required.

Level of Significance After Mitigation

Impacts are less than significant for Project construction and operation.

Greenhouse Gas Emissions

The Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Criterion GHG1)

Impact GHG-1: The Project would produce GHG emissions that exceed the SCAQMD CO_2e annualized significance threshold.

GHG emissions, unlike criteria pollutant emissions, are estimated for all Project phases and totaled prior to comparison with the emissions significance threshold. The direct construction emissions were estimated using the CalEEMod program. The indirect construction emissions would be minor, were not estimated, and would primarily be comprised of the carbon equivalent emissions of the water used for dust control.

Direct operation emissions would be nearly equivalent to existing emissions due to no increase, and perhaps a decrease, in regular maintenance requirements with a small increase in emergency standby IC engine testing emissions due to the new engine being larger than the existing engine. Indirect operation emissions are estimated to increase overall due to increases in the water demand and associated electricity demand for the pumps that the Project would accommodate but not cause.

Table 3.2-9 provides the estimated direct construction GHG emissions for the Project.

Table 3.2-9. Greenhouse Gas Emissions

Construction Emissions Source	GHG Emissions (Tons CO_2e)
On-road Vehicles	140.5
Off-road Equipment	128.3
Indirect Emissions	Negligible
Subtotal	268.8
Amortized Annual Construction Emissions [1]	9.0
Operation Emissions Source	
Direct Emissions	no increase
Indirect Emissions (electricity)[2]	429.7
Subtotal	429.7
Total	438.7
SCAQMD GHG Emissions Significance Threshold [3]	11,023
Exceeds Thresholds?	*No*

Source: Appendix C; SCAQMD, 2015c

1. Amortized emissions are the operation emissions plus the annualized construction emissions over the Project life (30 years for industrial projects per SCAQMD guidance). The actual initial project life for the RPS pumps is 20 years that increases to 50 years with proper maintence, and the initial project life for the RT is 50 years that increases to 80 years with proper maintenance.
2. Assumes worst-case assumption of a 100 percent increase in current baseline electricity use with no comparison to future no project electricity use.
3. The SCAQMD Significance Threshold of 10,000 metric tons has been converted to 11,023 short tons.

The Project's determined GHG emissions, shown above in Table 3.2-9, is well below the SCAQMD GHG emissions significance threshold. Additionally, it should be noted that the calculated indirect GHG emissions during operation shown above in Table 3.2-9 is based on the most conservative assumptions possible. The project's effect on GHG emissions could be expressed in a completely different manner, given that the no project water pumping needs are not static and that they would have to increase to meet demand regardless of this project. Using this less conservative approach the net change in GHG emission from future no project water delivery needs can be determined with the following assumptions:

- Compare the efficiency of the existing older pumps versus that for the new pumps for pumping water to the 2086-foot system to determine the incremental GHG emissions. Given there are no specific estimates available for future delivery needs from the RPS to the 2086-foot system it is assumed that delivery needs remain the same as current baseline as determined by 2015 annual average delivery flow rate.
- Assume no incremental emissions for the new 1960-foot system delivery needs, because it can be assumed that new infrastructure would be required regardless of this project to address those new delivery needs and they would use similarly efficient pumps.

In this incremental emissions case, as is shown in Appendix C, the efficiency of the existing RPS based on data provided by LADWP was found to be 68.8 percent, and using vendor data for the new motor and pumps the efficiency for the new 2086-foot system pumps would be 73.6 percent. In relative terms this is a seven percent increase in efficiency. Based on the baseline indirect emissions of 430 tons CO_2e this

would result in an emissions reduction of 30 tons CO_2e per year, which overall would result in a small annual GHG emissions reduction for the project.

Mitigation Measures for Impact GHG-1

None required.

Level of Significance After Mitigation

Impacts are less than significant for construction and operation.

The Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (Criterion GHG2)

Impact GHG-2: The Project would conflict with State and Local Greenhouse Gas Emissions Reduction Plans.

A summary of the proposed Project's compliance with potentially applicable GHG plans, policies, and regulations is provided in Table 3.2-10.

Table 3.2-10. Project Consistency with Applicable Plans, Policies, and Regulations for GHG Emissions

Adopted Plan, Policy, or Regulation	Consistency Determination	Proposed Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not Applicable	The Project would not have emissions sources that would be subject to this regulation.
40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.	Not Applicable	The Project would not have emissions sources that would be subject to this regulation.
State		
AB 32. Annual GHG Emissions Reporting	Not Applicable	The Project does not include emissions sources that would be subject to this regulation.
AB 32. Cap-and-trade	Not Applicable	The project does not include emissions sources that would be subject to this regulation.
Local		
SCAQMD Rules 2701 and 2702	Not Applicable	The Project is not proposing a GHG emissions reduction project.
City of Los Angeles Climate Action Plan	Consistent	The project would be designed to include all energy efficiency requirements and other new building requirements in the City's Climate Action Plan. This includes complying with directly applicable measures E11 and W3 through the increased RPS energy efficiency and designing the facility to meet low-impact development measures for storm water control.

1. The City's Climate Action Plan is comprised of the GreenLA and ClimateLA documents.

The Office of the California Attorney General maintains a website that addresses mitigation for greenhouse gases (OAG 2014). This website provides links to documents that list potential CEQA mitigation measures for global climate change impacts. These documents tend to focus on the discussion of measures that are recommended to be added to planning documents, rather than the identification of measures that would be applicable to specific types of development projects. From

these documents specific mitigation measures that could be relevant to the proposed Project have been identified and listed below in Table 3.2-11. This table identifies the applicability of each strategy and the project design feature or mitigation measure that is proposed to comply with the applicable strategies.

Table 3.2-11. California GHG reduction strategies

Strategy	Project Design/Mitigation to Comply with Strategy
Vehicle Climate Change Standards	These are ARB enforced standards; vehicles that access the project that are required to comply with the standards would comply with these strategies.
Limit Idling Time for Commercial Vehicles	Project vehicles would be required to comply with ARB idling restriction regulations.
Construction and Demolition Waste Reduction	LADWP has committed to recycling construction wastes to the extent feasible.
Increase Water Use Efficiency	The project would be designed to reduce water use through the use of native and/or climate adapted landscaping on site to reduce potable water demand.
Building Energy Efficiency Standards	The RPS building would be designed to meet current Title 24 efficiency standards for new buildings.
Appliance Energy Efficiency	Any new electric motors required for the Project that apply under this category would have to comply with the efficiency requirements of this regulation that are enforced by the California Energy Commission.
Green Buildings Initiative	The RPS building would be designed to meet current Title 24 efficiency standards for new buildings.
California Solar Initiative	Does not directly apply to this project, which is not a customer of PG&E, SCE, or SDG&E. The Project does not currently include installing solar panels on the RPS, RT, or elsewhere on the property.

Source: OPR 2008; CAPCOA 2009

This Project would not conflict with State and local GHG emissions reduction plans and policies.

Mitigation Measures for Impact GHG-2

None required.

Level of Significance After Mitigation

Impacts are less than significant for construction and operation.

3.2.5 Cumulative Impact Analysis

Air Quality

The air quality impact analysis considers cumulative impacts with respect to the existing ambient air quality conditions. The significance criteria developed by the South Coast Air Quality Management District (SCAQMD) reflect the existing ambient conditions and air quality planning efforts for the air basin, and reflect the SCAQMD's determination of what constitutes a substantial contribution to existing impacts. Therefore, the air quality impacts analysis provided in Section 3.3, to a large extent, is a cumulative impacts analysis. A reasonable geographic scope for assessing the potential for cumulative air quality effects for relatively small construction projects, such as this project, is one mile. The cumulative projects identified in Section 2.4, Table 2-4, are all located more than a mile from the project site and so the emissions from the proposed Project and the cumulative projects would not overlap in a manner that could cause significant cumulative air quality effects, nor could the proposed Project substantially contribute to significant cumulative air quality impacts. Therefore, the cumulative air quality impacts would be less than significant.

Greenhouse Gas Emissions

Climate change is a global cumulative impact, so the analysis presented in Section 3.2.4 is a cumulative impact analysis for the proposed Project's GHG emissions. Therefore, that section serves as the cumulative impacts analysis for greenhouse gas emissions.

3.3 Noise and Vibration

Introduction

Presented within this section is information on ambient noise conditions in the vicinity of the Redmont Pump Station. Potential noise impacts associated with construction and operation of the Project is based on the evaluation of exposure of persons to or the generation of noise levels in excess of established standards. Section 3.3.1 provides the existing setting, including background information on noise, the noise environment of the Project area, and sensitive receptors. Section 3.3.2 describes the existing noise standards and regulations applicable to the Project. Finally, Section 3.3.4 provides an analysis of potential noise and vibration impacts associated with the proposed Project.

Scoping Issues Addressed

During the scoping period for the EIR written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. A private citizen (Pierrette K. Maule) who lives adjacent to the existing Redmont Pump Station facility submitted a scoping comment letter that included comments specific to the noise analysis (Maule, 2016). The issue presented in the comment letter are addressed in this section, and the key issues from the letter are summarized below.

- Commenter asked if the noise level from the operation of the pump station in the long-term will be sent to community residents. This EIR is a public document, with notices of availability sent to all adjacent residents. An analysis of operational (long-term) noise and vibration associated with the proposed Project are provided within Section 3.3 as Impacts N-2 and N-3.

3.3.1 Environmental Setting

Fundamentals of Environmental Acoustics

The assessment of noise impacts uses specific terminology and descriptors not commonly used in everyday conversation. Therefore, to assist in a thorough understanding of the subsequent analysis, Table 3.3-1 provides definitions for technical terminology utilized.

Table 3.3-1. Summary of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
A-Weighted Sound Level (dBA)	The sound level in decibels as measured on a sound level meter using the A weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Ambient Noise Level	The composite noise from all sources resulting in the normal, existing level of environmental noise at a given location. The Leq, as defined below, typically defines the ambient level.
Equivalent Noise Level (Leq)	The average A-weighted dB level, on an equal energy basis, during the measurement period.
Maximum Noise Level (Lmax)	The maximum noise level during a sound measurement period.

Table 3.3-1. Summary of Acoustical Terms	
Term	Definition
Minimum Noise Level (Lmin)	The minimum noise level during a sound measurement period.
Percentile Noise Level (Ln)	The noise level exceeded during *n* percent of the measurement period, where *n* is a number between 0 and 100 (e.g., L90)
Community Noise Equivalent Level (CNEL)	The average sound level over a 24-hour period, with a penalty of 5 dB added between 7 p.m. and 10 p.m., and a penalty of 10 dB added for the nighttime hours of 10 p.m. to 7 a.m.

The effects of noise on people can be grouped into three general categories:

- Subjective effects of annoyance, nuisance, dissatisfaction
- Interference with activities such as speech, sleep, learning
- Physiological effects such as startling and hearing loss

In most cases, typical noise produces effects in the first two categories, being subjective effects and interference with activities only. Physiological effects of noise may be experienced by workers in industrial plants over an extended period. No satisfactory way exists to measure the subjective effects of noise, or to measure the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard is due primarily to the wide variation in individual thresholds of annoyance and habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is by comparison with the existing or "ambient" environment to which that person has adapted.

Community noise levels are usually closely related to the intensity of nearby human activity. Noise levels are generally classified as the following: (1) low, if ambient levels are below 50 dBA; (2) moderate, if ambient levels are between 50-65 dBA; and (3) high, if ambient levels are above 65 dBA (FTA, 2006).

Typical exterior Leq daytime noise levels are:

- 35 dBA or below in a rural or wilderness area,
- 50 to 60 dBA in small towns or wooded or lightly used residential areas,
- 75 dBA in busy urban areas, and
- 85 dBA near major freeways and airports.

Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, high noise levels are nevertheless considered to be adverse to public health. In general, the more the level or the tonal (frequency) variations of a noise exceed the existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual. When comparing sound levels from similar sources (e.g., changes in traffic noise levels), a 3-dBA increase is considered to be a just-perceivable difference, while a 5-dBA increase is clearly perceivable and a 10-dBA increase is considered a doubling in perceived loudness.

Fundamentals of Environmental Vibration

Vibration is a phenomenon related to noise, where common sources include trains, large vehicles on rough roads, and construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment (FTA, 2006). Vibration is defined as the mechanical motion of earth or ground, building, or other type of structure, induced by the operation of any mechanical device or equipment located upon or affixed thereto. Vibration generally results in an oscillatory motion in terms of the displacement, velocity,

or acceleration of the ground or structure(s) that causes a normal person to be aware of the vibration by means such as, but not limited to, sensation by touch or visual observation of moving objects.

The groundborne energy of vibration has the potential to cause structural damage and annoyance; it can be felt outdoors, but the perceived intensity of vibration effects are much greater indoors due to the shaking of structures. Several land uses are sensitive to vibrations, and include hospitals, libraries, residential areas, schools, and churches.

Ambient Noise Conditions in the Project Area

Both short-term (one-hour) and long-term (greater than 12 hours) noise measurements were conducted between August 19 (Wednesday) and August 21 (Friday), 2015. These measurements represent typical daytime and nighttime ambient noise conditions at residential receptor locations nearest to the Project site. The results of these measurements are provided in Table 3.3-2, with their locations shown in Figure 3.3-1. The details of the ambient noise measurements are provided in Appendix D.

Table 3.3-2. Ambient Noise Measurement Results

Location	Time and Duration	Level (dBA)		
		Lmin	Leq	Lmax
N1 – Residence at Southwest Corner of Summitrose Street and Tujunga Canyon Boulevard	7:00 a.m. – 8:00 a.m.	42.8	65.2	87.7
N2 – Residence on West Side of Tujunga Canyon Boulevard Adjacent to Project Site	10:00 a.m. – 11:00 a.m.	44.9	59.6	91.0
N3 – Residence on East Side of Redmont Avenue Adjacent to Project Site	1:00 p.m. – 2:00 p.m.	39.8	57.3	79.7
N4 – North Edge of Project Site Adjacent to Residence	2:30 p.m. – 11:30 a.m. (21-hour measurement)	35.8	50.9	81.8

As shown in Table 3.3-2, ambient noise near the Redmont Pump Station is primarily created by roadway traffic on Tujunga Boulevard and Summitrose Street. In general, the existing ambient noise conditions near the Redmont Pump Station are generally higher during the daytime and lower at night when traffic volumes decrease.

Sensitive Receptors

A land use survey was conducted to identify any potentially sensitive receptors (e.g., schools, residences, and recreational facilities) in the general vicinity of the Redmont Pump Station and truck routes near the Project area. The locations of these proximate residences reflect the locations of ambient noise measurements shown in Figure 3.3-1 (with additional images shown in Appendix D). Noise and vibration sensitive receptors in the immediate vicinity of the Redmont Pump Station include residential homes, as follows:

- North: Immediately adjacent to the site boundary, 15-feet from the site boundary to the nearest residential structure.
- East: Adjacent to the site on Redmont Avenue, 54-feet from the site boundary to the nearest residential structure.
- West: Adjacent to the site on Tujunga Canyon Boulevard, 66-feet from the site boundary to the nearest residential structure.
- South: Adjacent to the site on Summitrose Street, 65-feet from the site boundary to the nearest residential structure.

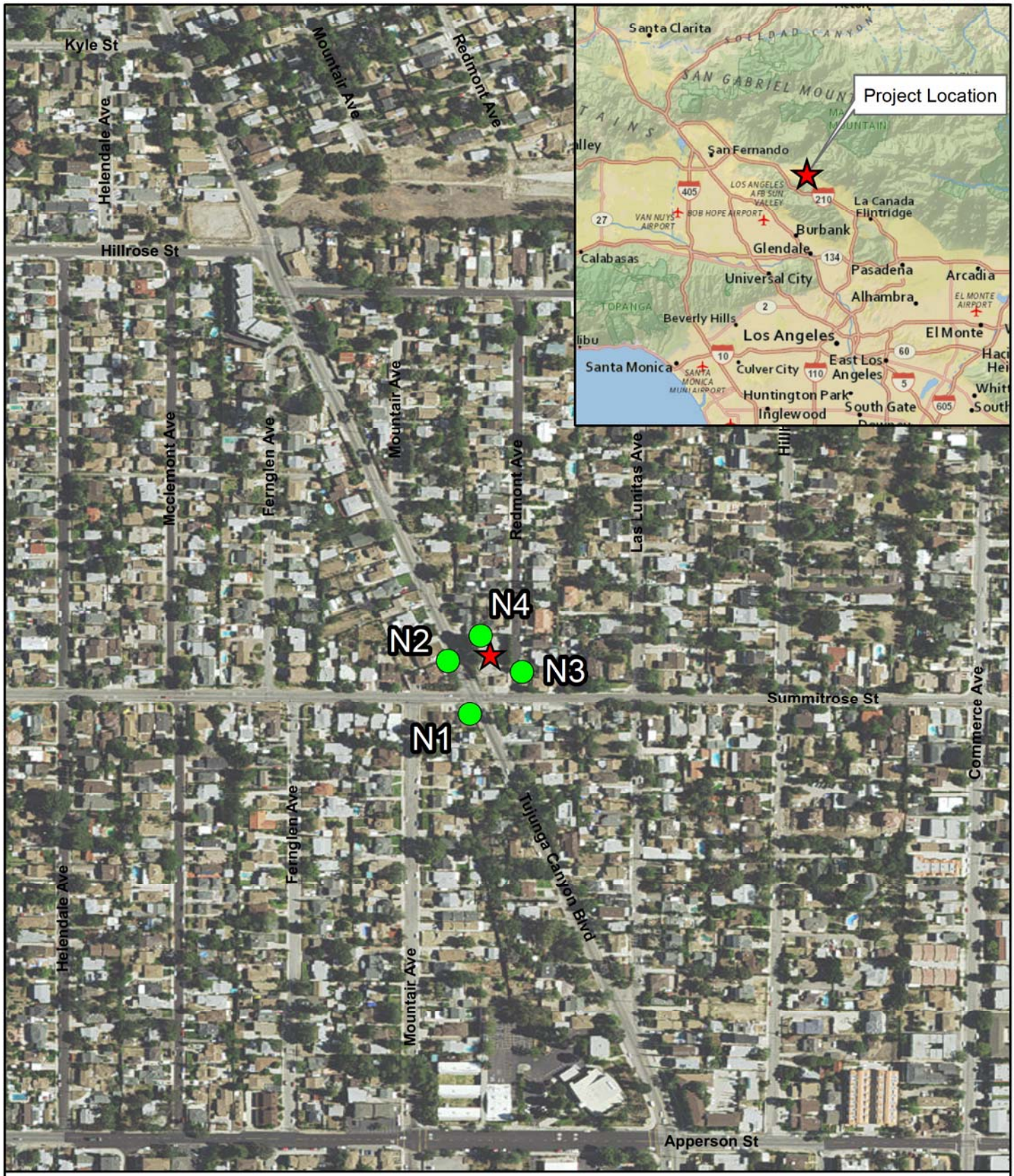


Figure 3.3-1

Locations of Ambient Noise Monitoring

Additional sensitive receptors include schools, hospitals, and recreational facilities along heavy truck delivery and haul routes near the Project site, which include:

- Our Lady of Lourdes Church and School, located 0.25 miles south of the Project site on Tujunga Canyon Boulevard.
- Verdugo Hills High School and Mt. Lukens High School, located 0.4 miles west of the Project site on Summitrose Street.

3.3.2 Regulatory Setting

State

California Government Code Section 65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. These recommendations have been incorporated into the applicable local plans and policies discussed below.

Local

The Project is located within the City of Los Angeles. The City has not adopted policies or guidelines relative to groundborne vibration. Therefore, the applicable noise-related plans and policies are provided below.

City of Los Angeles General Plan: Noise Element

Within the City of Los Angeles General Plan Noise Element, the following policy components are applicable to the proposed Project (City of Los Angeles, 1999):

- *Policy P11:* For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, require mitigation measures, as appropriate, in accordance with California Environmental Quality Act and city procedures. Examples of mitigation measures to consider:
  (a) Increase the distance from the noise source and the receptor by providing land use buffers, e.g., parking lots, landscaped setbacks or open areas, utility yards, maintenance facilities, etc.
  (b) Orient structures, use berms or sound walls, utilize terrain or use other means to block or deflect noise, provided it is not deflected to other noise-sensitive uses and that the barrier does not create a hiding place for potential criminal activity.
  (c) Require projects with noise generating components to have no openings in building walls that face sensitive uses.
  (d) Require that potential noise impacts associated with project construction be minimized by such measures as designating haul routes, requiring less noisy equipment, enclosing or orienting noisy equipment (e.g., electrical generators) away from noise sensitive uses, imposing construction hours that are more restrictive than those set forth in the Los Angeles Municipal Code, requiring vehicle parking and deployment activities to be separated and buffered from sensitive uses.

City of Los Angeles Municipal Code: Chapter XI Noise Regulations

The City of Los Angeles Municipal Code (LAMC) has established noise regulations for both short-term construction activities and long-term operation of a project (City of Los Angeles, 2016).

Construction Noise. LAMC Chapter XI (Noise Regulation), Section 112.05, establishes the following performance standards from any powered equipment or powered hand tool in a residential zone (or within 500-feet) at a distance of 50-feet between 7:00 a.m. and 10:00 p.m. to the following:

- 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.
- 75 dBA for powered equipment of 20 horsepower or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools.

These noise limits do not apply where compliance is deemed technically infeasible. Specifically, such activities are allowed when it is demonstrated that compliance is not possible "despite the use of mufflers, shields, sound barriers, and/or other noise reduction device or techniques during the operation of the equipment."

LAMC Chapter IV (Public Welfare), Section 41.40, also prohibits construction activity from occurring between 9:00 p.m. and 7:00 a.m. Monday through Friday, and between 6:00 p.m. and 8:00 a.m. on Saturday (City of Los Angeles, 2016). This is intended to protect persons occupying sleeping quarters in any hotel, apartment, or other place of residence.

Operational Noise. LAMC Chapter XI, Section 111.03, provides minimum ambient noise levels for various land uses, as described in Table 3.3-3. In the event that the actual measured ambient level at a subject location is lower than that provided in the table, the level in the table shall be assumed.

Table 3.3-3. City of Los Angeles Minimum Ambient Noise Levels

Zone	Allowable Average Noise Level (Leq)	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Residential (RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5)	50 dBA	40 dBA

City of Los Angeles, 2016

The exact noise standards vary depending on the type of noise source, but the allowable noise levels are then adjusted if certain conditions apply to the generated noise, as follows:

- For steady tone noise with an audible fundamental frequency or overtones (except for noise emanating from any electrical transformer or gas metering and pressure control equipment existing and installed prior to September 8, 1986), reduce allowable noise level by 5 dBA.
- For repeated impulsive noise, reduce allowable noise level by 5 dBA.

3.3.3 Thresholds of Significance and Methodology

An analysis of the impacts associated with noise during implementation of the proposed Project is described in Section 3.3.4. The following section lists the thresholds used to conclude the significance of an impact and describes the methods used to determine the proposed Project's impacts. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion in Section 3.3.4, as needed.

Thresholds of Significance

The significance of potential noise impacts was determined based on relevant State CEQA Guidelines, Appendix G, and applicable local regulations pertaining to noise and vibration performance standards.

Temporary Construction Noise

As discussed in Section 3.3.2, LAMC Section 112.05 establishes a 75 dBA performance standard from any powered equipment or powered hand tool at a distance of 50-feet from a residence between 7:00 a.m. and 10:00 p.m. The LAMC is not explicit in defining the length of time over which an average noise level should be assessed. However, based on a noted reference to "60 consecutive minutes," it is concluded that the one-hour Leq metric should be used.

- Criterion NOI1: Construction noise would exceed 75 dBA at a distance of 50-feet from a residence between 7:00 a.m. and 10:00 p.m.

The City of Los Angeles CEQA Thresholds Guide (City of Los Angeles, 2006) provides further guidance on determining the significance of noise impacts. According to applicable thresholds within the Guide, a project would normally have a significant impact on noise levels from construction if the following occurs:

- Criterion NOI2: 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.

Permanent Operational Noise

As discussed in Section 3.3.2, Table 3.3-3, operational noise of the proposed Project would have a significant impact if exceeding the following levels at adjacent residential receptors per LAMC Section 111.03:

- Criterion NOI3: Permanent operational noise sources would exceed 50 dBA between 7:00 a.m. and 10:00 p.m. or 40 dBA between 10:00 p.m. and 7:00 a.m.

In the event the City of Los Angeles considers operational noise (pump noise) associated with Criterion NOI3 to be steady or impulse tone noise, the allowable levels identified above would be decreased by 5 dBA. Regarding the location at which the noise measurements should be taken, the LAMC states that "except when impractical, the microphone shall be located four to five feet above the ground and ten feet or more from the nearest reflective surface. However, in those cases where another elevation is deemed appropriated, the latter shall be utilized."

Vibration

In terms of construction- and operational-related groundborne vibration impacts on buildings, the City of Los Angeles has not adopted performance standards. In addition, the City has not adopted any thresholds associated with human annoyance for groundborne vibration impacts. As the City of Los Angeles does not have significance thresholds to assess vibration impacts, Caltrans vibration standards for buildings are used to evaluate potential adverse impacts (Caltrans, 2004).

There are several different methods that are used to quantify vibration levels. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is most frequently used to describe vibration impacts to buildings. The PPV velocity is normally described in inches per second. Table 3.3-4 summarizes typical human response to transient (infrequent) vibration.

Table 3.3-4. Typical Human Response to Transient Vibration, PPV	
Human Response	Vibration (Inches/Second)
Severe	2.00
Strongly Perceptible	0.90
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: Caltrans, 2004

Table 3.3-5 presents maximum vibration levels for preventing damage to various structure types and conditions.

Table 3.3-5. Maximum Vibration Levels for Preventing Damage, PPV	
Structure and Condition	Limiting Vibration (Inches/Second)
Engineered Structures	1.0 – 1.5
Residential Structures in Good Repair with Gypsum Board Walls	0.4 – 0.5
Residential Structures, Plastered Walls	0.2 – 0.3

Source: Caltrans, 2004

Based on these standards, impacts relative to groundborne vibration would be considered significant if the following were to occur at adjacent residences:

- Criterion NOI4: Construction or operational activities would cause a PPV groundborne vibration level to exceed 0.20 inches per second at any adjacent residential structures.

Impact Assessment Methodology

Noise impacts on the surrounding community are enforced through local noise ordinances, supported by nuisance complaints and subsequent investigation. It is assumed that all existing regulations to the construction and operation of the Project would be enforced. As such, noise impacts are typically determined by compliance with applicable noise performance standards and regulations established by the local jurisdiction. Therefore, the local standards presented above are used in this section to help determine the significance of noise impacts. The Occupational Safety and Health Association (Cal-OSHA in California) specifies and regulates noise performance standards related to on-site worker health and safety (OSHA, 2016). Therefore, an analysis of noise impacts to on-site workers is not required.

To determine potential impacts, the significance criteria identified above were used when comparing ambient noise conditions in the Project area against predicted noise levels of Project-related temporary (construction) and permanent (operational) equipment proposed for use. Impacts are identified should the applicable noise and vibration performance standards (criteria presented above) be exceeded by Project-related activities.

Each impact statement includes a discussion of the nature and intensity of the impact and identifies whether it is in compliance with applicable noise performance standards and regulations for temporary construction-related activities.

3.3.4 Environmental Impacts and Mitigation Measures

Construction noise would exceed 75 dBA at a distance of 50-feet from a residence between 7:00 a.m. and 10:00 p.m. (Criterion NOI1)

Impact N-1: Construction activities would result in temporary noise greater than 75 dBA at residential uses within 50-feet from work locations exceeding the performance standard established by the Los Angeles Municipal Code

Construction activities are expected to only occur between 7:00 a.m. to 5:00 p.m., Monday through Friday (no work on Saturdays, Sundays, or federal holidays). However, as discussed in Section 3.3.2, LAMC Chapter XI (Noise Regulation), Section 112.05, establishes a performance standard of 75 dBA from any powered equipment or powered hand tool in a residential zone (or within 500-feet) at a distance of 50-feet between 7:00 a.m. and 10:00 p.m.

On-Site Noise Sources

Equipment used during construction of the proposed Project would generate temporary noise. Table 3.3-6 presents typical noise levels generated by a variety of equipment types likely utilized during Project construction. These maximum construction-related noise levels would attenuate at an average rate of 4 to 6 dBA every doubling of distance depending on adjacent surfaces and noise spreading (FTA, 2006).

Table 3.3-6. Noise Levels from Construction Equipment, Actual Measured

Construction Equipment	Noise Level (Lmax dBA at 50 feet)
Grader/Spreader	85
Compacter	83
Compressor	83
Sweeper	82
Excavator	81
Front End Loader	79
Bulldozer/Backhoe	78
Dump Truck	76
Water Truck	76
Welder/Torch	74

Source: FHWA, 2006

These maximum noise levels would likely not be continuous throughout the entire workday, but instead periodic and short-term. Review of the expected construction equipment noise levels presented in Table 3.3-6 indicates that the loudest expected equipment generally emits Lmax noise in the range of 80 to 85 dBA at 50 feet. Based on reasonably conservative estimates of typical construction equipment use per hour (usage factor of 40 to 50 percent per hour) and assuming overlap of equipment operation (several pieces of equipment used simultaneously within the Project site), expected hourly Leq noise levels at various distances are presented in Table 3.3-7.

Table 3.3-7. Expected Construction Equipment Noise Levels, Hourly Leq, Versus Distance

Distance from Source (ft.)	Noise Level (dBA) Leq
50	81
100	77
200	72
400	67
800	61

It should be noted that a number of construction activities would occur below grade within the tank hole (10 feet or more below grade). Because this equipment would operate within the excavated tank hole, noise from activities occurring within this area would be shielded from adjacent receptors.

As shown in Table 3.3-7, temporary construction noise levels from work occurring within the Project site is expected to exceed 75 dBA (per LAMC Section 112.05) at residential receptors located within approximately 150 feet from the work area. Mitigation Measure N-1a is proposed to reduce construction noise through the implementation of Best Management Practices (BMPs) and establishment of a process to receive and address public complaints regarding construction noise.

Even with the implementation of BMPs presented in Mitigation Measure N-1a, the close proximity of residences to the Project site would result in the Project exceeding 75 dBA at residential receptors. No additional feasible mitigation measures are possible to reduce this impact. Therefore, Mitigation Measure N-1b requires the LADWP to obtain a variance from the City of Los Angeles to temporarily exceed the 75 dBA performance standard identified in LAMC Section 112.05. Due to residences being located immediately adjacent to the Project site, compliance with this noise limit may be deemed technically infeasible and therefore, not applicable (refer to description of LAMC 112.05 in Section 3.3.2). Even with implementation of these measures, noise during construction is considered significant and unavoidable.

Mobile Noise Sources

Construction of the Project would also result in a maximum of 21 heavy truck trips (trucks with 3 or more axles) to the site per day. These trucks would utilize Tujunga Canyon Boulevard and Summitrose Street. Near the Project site, these streets were observed to have relatively high daily traffic volumes, which included heavy truck trips. Based on the Project's small contribution of new daily trucks trips, periodic noise from these mobile sources is not expected to significantly increase ambient noise levels along these travel routes. This impact would be less than significant.

Mitigation Measures for Impact N-1

N-1a **Implement Best Management Practices to Reduce Construction Noise and Address Public Complaints**. For the duration of Project construction, the LADWP shall implement the following measures to reduce temporary noise and address public complaints regarding temporary noise:

- All noise-producing construction equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition and appropriate for the equipment that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc-welder, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Erect temporary noise barriers along the site perimeter closest to sensitive receptors to the maximum extent feasible. These walls should seek to reduce noise a minimum of 6 dBA.
- Limit unnecessary idling of construction equipment.
- Electric-powered equipment shall be used instead of pneumatic or internal combustion power equipment, where feasible.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be limited to safety warning purposes only.

- During construction, communication or music systems shall not be audible at any adjacent receptor.
- Actively pursue and implement measures to reduce construction-related automobile trip generation, such as ride-share and carpooling programs from off-site staging areas.
- Inform property owners within 300-feet of the Project boundary of anticipated noise disturbances at least two to four weeks prior to construction, including a contact number to register noise complaints.
- Post a telephone number at the site construction entrance where residents can call with questions or issues. All calls shall be returned within 24 hours to answer questions and handle complaints. Documentation of the complaint and resolution shall be maintained. A clear appeal process with the City shall be established prior to construction commencement that allows for resolution of noise problems that cannot be immediately solved.
- If noise complaints are received, receptor exposure levels shall be determined and measures implemented to reduce excessive noise at the receptor, as feasible.

N-1b **Obtain Noise Variance from City of Los Angeles**. Prior to the start of construction, the LADWP shall obtain a variance from the City of Los Angeles for temporarily exceeding 75 dBA at residential receptors located proximate to the Project site for the duration of construction (per the noise performance standard established in LAMC Section 112.05).

Level of Significance After Mitigation

Even with implementation of Mitigation Measures N-1a and N-1b, onsite noise during construction would be significant and unavoidable. A statement of overriding considerations is required for this impact.

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 (Criterion NOI2)

Construction activities are expected to only occur between 7:00 a.m. to 5:00 p.m., Monday through Friday (no work on Saturdays, Sundays, or federal holidays). Therefore, construction would be in full compliance with the allowable construction hours specified by the Los Angeles Municipal Code and would not result in noise levels greater than 5 dBA over ambient conditions outside of construction hours (per City of Los Angeles CEQA Thresholds Guide, as presented in Section 3.3.3). No impact would occur.

Permanent operational noise sources would exceed 50 dBA between 7:00 a.m. and 10:00 p.m. or 40 dBA between 10:00 p.m. and 7:00 a.m. (Criterion NOI3)

Impact N-2: Project operation could result in localized increases in existing ambient noise conditions or violate local rules, standards, and/or ordinances

Once constructed, the Project would contain electrical and pump equipment that would generate permanent noise. The Project includes seven pumps rated at 1,700 gallons per minute (gpm) and one internal combustion pumps rated at 3,000 gpm. However, only four pumps would operate at a single time continuously. This equipment would be housed inside the proposed pump station enclosure at the north end of the Project site, directly adjacent to residential structures. To ensure operation of Project equipment does not result in a permanent increase to ambient noise conditions at adjacent residences, Mitigation Measure N-2a is proposed to ensure that operational noise does not spread outside the pump station enclosure or exceeds 40 dBA at adjacent residential property lines. Conformance with these measures

ensures the Project complies with the noise performance standards identified in LAMC Section 111.03 for adjacent residential uses. Furthermore, Mitigation Measure N-2a would ensure noise from non-emergency maintenance activities occurs during normal business hours Monday through Friday. With the incorporation of Mitigation Measure N-2a, impacts would be reduced to less than significant.

Mitigation Measures for Impact N-2

N-2a **Operation and Maintenance Noise Control.** The LADWP shall ensure the following noise performance standards are met in final design and operation of the new pump station.

- Final design of the pump station shall ensure no operational equipment noise is audible outside the structure. At a minimum, final design shall ensure that pump station operational noise does not exceed 40 dBA at the nearest residential property line.
- Final design of the pump station shall ensure no groundborne vibration from pump operations is measurable outside the structure.
- In the event new electrical transformers (or other electrical infrastructure that generates noise) are installed for pump operation, they shall be installed within the pump station enclosure or sited away from residences, to the extent feasible, ensuring any noise does not exceed 40 dBA at the nearest residential property line.
- During operation, normal maintenance activities shall be limited to Monday through Friday during the hours of 8:00 a.m. to 5:00 p.m.

Level of Significance After Mitigation

With implementation of Mitigation Measure N-2a, noise during operation would be less than significant.

Construction or operational activities would cause a PPV groundborne vibration level to exceed 0.20 inches per second at any adjacent residential structures (Criterion NOI4)

Impact N-3: Vibration from temporary construction equipment use or from Project operation could substantially disturb sensitive receptors

Construction. Typically, ground-borne vibrations generated by construction activities attenuate rapidly with distance from the source of the vibration. Ground vibrations from construction activities do not often reach the levels that can damage structures, but can achieve the audible and feelable ranges in buildings very close to the source (FTA, 2006).

During construction of the Project, heavy truck trips, grading, and stationary equipment would produce short-term groundborne vibration. The main cause of vibration during vehicle transport is uneven road surfaces. However, large truck trips would only occur on paved roads adjacent to residential receptors near the Project site, with negligible vibration levels produced. Therefore, grading would be the primary sources of vibration during construction of the Project.

Surface grading would produce low levels of groundborne vibration. The subterranean location of work occurring within the tank hole (10 feet or more below grade) would help shield adjacent residential structures from groundborne vibration levels, which would diminish rapidly with distance. However, since some activities would occur directly adjacent to residential structures (particular the residential receptor to the north of the Project site), Mitigation Measures N-3a is recommended and includes active monitoring of groundborne vibration levels during these construction activities. With the inclusion of Mitigation Measure N-3a, temporary vibration impacts would be less than significant.

Operation. Once constructed, the Project would contain stationary pumping equipment that could generate vibration. This equipment would be located inside the proposed pump station enclosure at the north end of the Project site, directly adjacent to residential structures. Mitigation Measures N-3b is recommended to ensure vibration from operating pumps does not spread outside the pump station enclosure. With the inclusion of Mitigation Measure N-3b, operational vibration impacts would be less than significant.

Mitigation Measures for Impact N-3

N-3a **Construction Vibration Monitoring.** During activities identified has having a high potential for groundborne vibration, the LADWP shall monitor groundborne vibration levels in the vicinity of occupied residences (particularly the residential receptor to the north of the site) to ensure vibration levels do not exceed 0.20 inches per second. In the event temporary vibration is found to exceed this level, LADWP shall assess the construction activity responsible for generating vibration and determine if additional mitigation or altering the activity can be feasibly implemented so that potential damage to adjacent structures would not occur.

N-3b **Operation Vibration Control.** The LADWP shall ensure the following noise performance standards are met in final design and operation of the new pump station.

- Final design of the pump station shall ensure no groundborne vibration from pump operations is measurable outside the structure.

Level of Significance After Mitigation

With implementation of Mitigation Measures N-3a and N-3b, vibration during construction and operation would be less than significant.

3.3.5 Cumulative Impact Analysis

The geographic area of analysis for cumulative noise impacts is generally limited to areas within approximately 0.5 mile of the Redmont Pump Station. This maximum area is defined because noise from temporary construction activities would generate the greatest noise levels. At distances greater than 0.5 mile, impulse noise and steady construction noise would not combine with other similar cumulative noise sources and would attenuate to blend in with background noise levels. Ground vibrations dissipate more rapidly than noise levels, limiting the geographic extent of ground vibration cumulative impacts to the immediate vicinity of the vibration source.

The cumulative projects identified in Section 2.4, Table 2-4, are all located more than a mile from the Project site and so temporary and permanent noise and vibration from the proposed Project and the cumulative projects would not overlap in a manner that could cause significant cumulative effects. Therefore, the cumulative noise and vibration impacts would be less than significant.

3.4 Traffic and Transportation

Introduction

This section focuses on the proposed Project's potential to adversely impact capacity of the existing street system, impede the flow of emergency service vehicles, and create roadway hazards. Potential impacts related to adopted policies, plans, or programs supporting alternative transportation are also analyzed. This section utilizes the information presented within the *Traffic Study for the Los Angeles Department of Water and Power Redmont Pumping Station and Tank*, prepared in October 2015 by KOA Corporation. The October 2015 study is fully presented within this EIR as Appendix E and is incorporated by reference herein.

Scoping Issues Addressed

During the scoping period for the EIR written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Caltrans submitted a scoping comment letter that included comments specific to the transportation and traffic analysis (Caltrans, 2016). The issue presented in the comment letter did not require further discussion within this section, and the key items from the letter are summarized below.

- Caltrans indicated they did not expect Project approval to result in a direct impact to any State transportation facility. Caltrans indicated that if any proposed work takes place within a Caltrans right-of-way, an encroachment permit from Caltrans would be required and environmental concerns must be adequately addressed within the EIR. As discussed in Section 2 (Project Description), the proposed Project would not include any activities within or affecting a Caltrans right-of-way. Therefore, an encroachment permit from Caltrans is not required.

3.4.1 Environmental Setting

Terminology

Level of service (LOS) is a qualitative indicator used for describing the performance of a roadway segment or intersection operating conditions. It is measured from LOS A (excellent conditions) to LOS F (extreme congestion), with LOS A through D considered to be acceptable. The LOS is based on the intersection capacity utilization (ICU) methodology value, which is a comparison of the intersection delay in seconds and traffic volume to the overall capacity (V/C). The relationship between delay and the V/C value and the level of service at is shown in Table 3.4-1.

Table 3.4-1. Relationship Between Volume/Capacity Values and Levels of Service

LOS	Definition	Average Stop Delay per Vehicle (Seconds)	V/C Value
A	LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.	≤10	0.00 to 0.60
B	LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.	>10 - 15	> 0.60 to 0.70
C	LOS C describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.	>15 - 25	> 0.70 to 0.80
D	LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.	>25 - 35	> 0.80 to 0.90
E	LOS E is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.	>35 - 50	> 0.90 to 1.00
F	LOS F is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed.	>50	> 1.00

Source: Appendix E

Existing Study Area Road Conditions

The affected environment for the proposed Project includes public roadways providing local access to the Project site. As discussed in Section 2.2, trucks delivering all proposed infrastructure would come from the south and access the Project site via Summitrose Street and Tujunga Canyon Boulevard. The following provides a description of study area intersections and roadway segments, which are depicted in Figure 3.4-1. Traffic count summaries are provided in Appendix E.

Intersections. The following 10 signalized intersections are included within the traffic study area:

1. Mt. Gleason Avenue & Hillrose Street
2. Tujunga Canyon Boulevard & Hillrose Street (North)
3. Tujunga Canyon Boulevard & Hillrose Street (South)
4. Jardine Avenue & Foothill Boulevard
5. Mt. Gleason Avenue & Foothill Boulevard
6. Tujunga Canyon Boulevard & Summitrose Street
7. Redmont Avenue & Summitrose Street
8. Tujunga Canyon Boulevard & Apperson Street
9. Tujunga Canyon Boulevard & Valmont Street
10. Tujunga Canyon Boulevard & Foothill Boulevard

Existing intersection traffic volumes were collected on Thursday, September 17, 2015 (Aspen, 2015). Table 3.4-2 provides current peak hour operating conditions for each study area intersection.

Table 3.4-2. Study Area Intersection LOS – Peak Period Current Operating Conditions

	Intersection	A.M. Peak Period[1]		P.M. Peak Period[1]	
		V/C or Delay (Sec)	LOS	V/C or Delay (Sec)	LOS
1	Mt. Gleason Avenue & Hillrose Street	13.5	B	9.6	A
2	Tujunga Canyon Boulevard & Hillrose Street (North)	10.5	B	8.5	A
3	Tujunga Canyon Boulevard & Hillrose Street (South)	10.5	B	8.6	A
4	Jardine Avenue & Foothill Boulevard	67.9	F	58.6	F
5	Mt. Gleason Avenue & Foothill Boulevard	0.6	A	0.6	A
6	Tujunga Canyon Boulevard & Summitrose Street	11.7	B	9.4	A
7	Redmont Avenue & Summitrose Street	9.2	A	9.1	A
8	Tujunga Canyon Boulevard & Apperson Street	16.1	C	10.9	B
9	Tujunga Canyon Boulevard & Valmont Street	13.3	B	10.5	B
10	Tujunga Canyon Boulevard & Foothill Boulevard	0.8	C	0.7	C

Notes: [1] A.M. Peak Period is 8:00 to 10:00 a.m.; P.M. Peak Period is 4:00 to 6:00 p.m.
Source: Appendix E

As shown in Table 3.4-2, nine of the ten study intersections are currently operating at LOS D or better during the a.m. and p.m. peak hours. However, the intersection of Jardine Avenue and Foothill Boulevard currently operates at LOS F (at/overcapacity) during both the a.m. and p.m. peak hours.

Roadway Segments. The following eight roadway segments are included in the traffic study area:

A. Hillrose Street, between Mt. Gleason Avenue & Tujunga Canyon Boulevard. This roadway segment currently has existing average daily traffic (ADT) volumes of 2,330 vehicles per day.

B. Hillrose Street, between Tujunga Canyon Boulevard & Redmont Avenue. This roadway segment currently has existing ADT volumes of 1,160 vehicles per day.

C. Mt. Gleason Avenue, between Hillrose Street & Summitrose Street. This roadway segment currently has existing ADT volumes of 5,298 vehicles per day.

D. Tujunga Canyon Boulevard, between Hillrose Street & Summitrose Street. This roadway segment currently has existing ADT volumes of 3,965 vehicles per day.

E. Redmont Avenue, between Hillrose Street & Summitrose Street. This roadway segment currently has existing ADT volumes of 200 vehicles per day.

F. Summitrose Street, between Mt. Gleason Avenue & Tujunga Canyon Boulevard. This roadway segment currently has existing ADT volumes of 4,445 vehicles per day.

G. Tujunga Canyon Boulevard, between Summitrose Street & Apperson Street. This roadway segment currently has existing ADT volumes of 5,279 vehicles per day.

H. Tujunga Canyon Boulevard, between Apperson Street & Valmont Street. This roadway segment currently has existing ADT volumes of 6,822 vehicles per day.

Figure 3.4-1

Project Study Area Intersections and Roadway Segments

The associated ADT counts presented above were collected during the same days as the study intersection counts (Aspen, 2015). Table 3.4-3 provides current peak hour operating conditions for each study area roadway segment.

Table 3.4-3. Study Area Roadway Segment LOS – Peak Period Current Operating Conditions

	Street Segment	# of Lanes	Capacity	Existing			
				Peak Period[1]	ADT Volume	V/C	LOS
A	Hillrose Street Between Mt. Gleason Avenue & Tujunga Canyon Boulevard	2	1,600	A.M.	267	0.167	A
				P.M.	238	0.149	A
B	Hillrose Street Between Hillrose Street & Summitrose Street	2	1,600	A.M.	198	0.124	A
				P.M.	109	0.068	A
C	Mt. Gleason Avenue Between Hillrose Street & Summitrose Street	2	1,600	A.M.	559	0.349	A
				P.M.	454	0.284	A
D	Tujunga Canyon Boulevard Between Hillrose Street & Summitrose Street	2	1,600	A.M.	536	0.335	A
				P.M.	362	0.226	A
E	Redmont Avenue Between Hillrose Street & Summitrose Street	2	1,600	A.M.	18	0.011	A
				P.M.	23	0.014	A
F	Summitrose Street Between Mt. Gleason Avenue & Tujunga Canyon Boulevard	2	1,600	A.M.	323	0.202	A
				P.M.	358	0.224	A
G	Tujunga Canyon Boulevard Between Summitrose Street & Apperson Street	2	1,600	A.M.	665	0.416	A
				P.M.	479	0.299	A
H	Tujunga Canyon Boulevard Between Apperson Street & Valmont Street	2	1,600	A.M.	675	0.422	A
				P.M.	566	0.354	A

Notes: [1] A.M. Peak Hours are 8:00 to 10:00 a.m.; P.M. Peak Hours are 4:00 to 6:00 p.m.
Source: Appendix E

Transit Service

Both the City of Los Angeles Department of Transportation (LADOT) and the Los Angeles County Metropolitan Transportation Authority (Metro) provide public transit bus lines serving the Project area. Along study area roadway segments, Metro bus route 222 travels along Summitrose Street and Mt. Gleason Avenue. See Appendix E for further information on transit service in the Project area.

Bikeways and Pedestrian Facilities

No study area roadway segments contain designated bikeways (Metro, 2016). Furthermore, the study area roadway segments surrounding the Project site do not contain sidewalks, nor does the Project site. Site reconnaissance shows limited pedestrian movements occurring within residential streets near the Project site, primarily in the morning and afternoon hours as students walk home from nearby schools. These pedestrians were observed walking along the roadway shoulder (Aspen, 2015). Some of the study roadways and intersections do have sidewalks and other pedestrian facilities, in addition to access to transit lines.

3.4.2 Regulatory Setting

State

The California Vehicle Code includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways, the safe operation of vehicles, and the transportation of hazardous materials (DMV, 2015).

California Government Code Sections 65352, 65404, 65940, and 65944, amended by Senate Bill 1462, require local planning agencies to notify the military whenever a proposed development project or general plan amendment is located within 1,000 feet of a military installation, located within special use airspace, or is located beneath a low-level flight path.

California Department of Transportation (Caltrans)

Within the Guide for the Preparation of Traffic Impact Studies (TIS), the following criteria are a starting point in determining when a TIS for a project is needed (Caltrans, 2002):

1. Generates over 100 peak hour trips assigned to a State highway facility.
2. Generates 50 to 100 peak hour trips assigned to a State highway facility, and affected State highway facilities are experiencing noticeable delay (i.e., approaching unstable traffic flow conditions – LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility, and affected State highway facilities are experiencing significant delay (i.e., unstable or forced traffic flow conditions – LOS "E" or "F").

As stated in the California Department of Transportation's (Caltrans) Guide for the Preparation of Traffic Impact Studies, a TIS may be as simple as providing a traffic count to as complex as a microscopic simulation (Caltrans, 2002). The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic. The traffic study provided as Appendix E is considered a stand-alone TIS consistent with the Guide for the Preparation of Traffic Impact Studies.

Local

Los Angeles County Congestion Management Program

The Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and has been implemented locally by Metro. The CMP for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. A total of 164 intersections are identified for monitoring on the system in Los Angeles County.

The following must be included in a traffic impact analysis, at minimum: all CMP-monitoring locations, including monitored freeway on- or off-ramp intersections, where the proposed project would add 50 or more trips during either the AM or PM weekday peak hours; all arterial segments where the proposed project would add 50 or more peak-hour trips, if CMP arterial segments are being analyzed rather than intersections; mainline freeway locations where the proposed project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours; and any other locations that Caltrans determines relevant and necessary

3.4.3 Thresholds of Significance and Methodology

An analysis of the impacts associated with traffic and transportation during implementation of the proposed Project is described in Section 3.4.4. The following section lists the thresholds used to conclude the significance of an impact and describes the methods used to determine the proposed Project's impacts. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion in Section 3.4.4, as needed.

Thresholds of Significance

The focus of this traffic impact study is on the construction period of the proposed Project. The post-construction operations period will not generate significant levels of daily traffic, and only routine maintenance activities will be required. Additionally, no impacts to aviation would occur. Therefore, the significance of potential traffic and transportation impacts were determined based on relevant State CEQA Guidelines, Appendix G. Project construction would have significant impacts if it would:

- Criterion TRA1: Temporarily exceed, either individually or cumulatively, a level of service objective or other roadway performance standard established by Caltrans, Los Angeles County, or City of Los Angeles for study area roadway segments and intersections.
- Criterion TRA2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Criterion TRA3: Temporarily impede traffic flow or access.
- Criterion TRA4: Temporarily increase roadway hazards, including damage to public roadways.
- Criterion TRA5: Temporarily impact available street parking.

The LADOT has established specific thresholds for project related increases in the V/C of signalized study intersections. Table 3.4-4 identifies the increases in peak-hour V/C ratios that constitute significant impacts per LADOT.

Table 3.4-4. LADOT Project-Related V/C Increase Thresholds

Level of Service	Final V/C[1]	Project Related V/C increase
C	> 0.700 – 0.800	Equal to or greater than 0.040
D	> 0.800 – 0.900	Equal to or greater than 0.020
E and F	0.901 or more	Equal to or greater than 0.010

Notes: [1] Final V/C is the V/C ratio at an intersection, considering impacts from the Project, ambient and related Project growth, and without proposed traffic impact mitigations.
Source: Appendix E

With respect to Criterion TRA1, traditional incremental thresholds were not applied for this analysis, as those are developed for the analysis of development projects. The threshold of significance used for this analysis is the causing or worsening of LOS values to or within a level of E or F due to Project construction at signalized study intersections and study roadways, which represents at-capacity or over-capacity conditions.

It should be noted that many agencies including LADOT and the City of Los Angeles do not have established significant impact criteria for stop-controlled intersections. For this analysis, significant impacts for the stop-controlled study intersections were determined by conducting analysis under the Highway Capacity Manual (HCM) unsignalized methodology, and determining if Project traffic would cause or worsen LOS values of E or F and also meet peak-hour signal warrants.

Impact Assessment Methodology

The steps involved in the analysis included internal scoping of the work with the Project team; collection of baseline traffic data; analysis of existing, existing-with-construction, and future-with-construction conditions; identification of adverse impacts and other circulation issues; and development of recommendations for mitigation, if necessary. Further details of the methodology applied to this effort are summarized below.

Definition of Analysis Periods. The study analysis periods were based on existing conditions (the time when the traffic counts were conducted), and the peak and latest year of construction of the proposed Project (defining the future analysis year with the highest background traffic volumes). The future analysis period was defined as the year 2019, based on construction details.

Project Trip Generation, Construction Period. In calculating peak-hour trips for the Project, it is assumed that a majority of the construction employees will arrive and depart the construction work areas by personal vehicles. The morning arrival by employees is assumed to overlap the a.m. peak hour by 50 percent, with the remaining 50 percent of employees assumed to be at the sites before 7:00 a.m. The same would occur during the p.m. peak hour, with 50 percent of employees assumed to depart the site before 4:00 p.m. Therefore, the same reduction was taken for both peak periods.

During Project construction activity, daily truck haul activities will occur over an eight-hour period that begins during the a.m. peak period, and is complete during the p.m. peak period. Table 3.4-5 provides the maximum daily trips generated by the proposed Project during this peak construction period, which are used to analyze worst-case traffic impacts. As indicated in Table 3.4-5, Project construction would generate a daily total of 164 passenger car equivalent trips, with 29 (24 inbound and 5 outbound) trips occurring during the a.m. peak hour and 29 (5 inbound and 24 outbound) trips occurring during the p.m. peak hour.

Table 3.4-5. Proposed Project Maximum Daily Construction Trips

Trip Type	Maximum Daily Construction Traffic	A.M. Peak Period	P.M. Peak Period
Passenger Vehicles (Employee)	94	24	24
Trucks	70	5	5
TOTAL DAILY TRIPS	*164*	*29*	*29*

Source: Appendix E

Project Trip Distribution. The distribution of construction truck trips was assumed to be primarily freeway-oriented. The distribution pattern for analyzed employee trips assumed that employees would arrive to construction sites using primarily surface streets and freeways. Construction trip distribution and trip assignment is provided in detail within Appendix E.

Impact Analysis. Traffic impacts are identified if a proposed development will result in a significant change in traffic conditions at a study intersection or roadway segment. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Additional safety and access impacts are assessed based on the level of potential roadway disruption associated with construction activities and material deliveries at the project site.

3.4.4 Environmental Impacts and Mitigation Measures

Temporarily exceed, either individually or cumulatively, a level of service objective or other roadway performance standard established by Caltrans, Los Angeles County, or City of Los Angeles for study area roadway segments and intersections (Criterion TRA1)

Impact T-1: Construction traffic would cause a temporary increase in vehicle trips resulting in an unacceptable reduction in the performance (LOS) of roadways or intersections affected by the Project

As discussed above in Section 3.4.3, construction would result in a maximum of 164 daily trips from worker commutes and truck trips for the delivery of equipment and materials, movement of cut-and-fill material, watering for dust control, concrete delivery, disposal of waste, and other various construction needs. Appendix E provides details regarding the distribution of these trips throughout Project area roads.

Intersection Analysis. Table 3.4-6 adds the maximum daily construction trips to the study area intersections and shows any change in delay and LOS. As shown in Table 3.4-6, construction of the proposed Project would temporarily diminish the intersection of Tujunga Canyon Boulevard and Foothill Boulevard from LOS C to LOS D during the morning peak period. However, as discussed in Section 3.4.3, for an intersection operating at LOS C, LADOT threshold for Project related increases would be a change greater than 0.04 in V/C. Because the temporary change is only 0.006, no significant impact would occur. Additionally, construction would worsen operations within LOS F at the unsignalized intersection of Jardine Avenue and Foothill Boulevard. A peak-hour signal warrant analysis at this location is provided in Appendix E to determine whether the Project construction traffic triggers a significant impact. Because this intersection is unsignalized, this analysis determines if new signalization could reduce impacts. Based on the results of the analysis in Appendix E, a new potential traffic signal at this location would not reduce impacts under the analysis scenarios. Therefore, while the proposed Project would slightly worsen delays at this intersection already performing at LOS F, Project construction would not trigger a significant impact.

Roadway Segment Analysis. Table 3.4-7 adds the maximum daily trips to the study area roadway segments and shows any change in LOS. As shown, the temporary addition of maximum daily construction trips would not diminish any study area roadway segment from existing conditions or exceed any threshold. Less than significant impacts would occur.

Mitigation Measures for Impact T-1

None.

Level of Significance After Mitigation

The temporary addition of construction trips to the study area roadway network would result in less than significant impacts.

Table 3.4-6. Construction Traffic Volume Impacts – Intersections

		Existing Conditions				With Project Construction				
		A.M. Peak Period[1]		P.M. Peak Period[1]		A.M. Peak Period[1]		P.M. Peak Period[1]		
	Intersection	V/C or Delay (Sec)	LOS	V/C or Delay (Sec)	LOS	V/C or Delay (Sec)	LOS	V/C or Delay (Sec)	LOS	Significant Temporary Change?
1	Mt. Gleason Avenue & Hillrose Street	13.5	B	9.6	A	13.6	B	9.7	A	NO
2	Tujunga Canyon Boulevard & Hillrose Street (North)	10.5	B	8.5	A	10.6	B	8.6	A	NO
3	Tujunga Canyon Boulevard & Hillrose Street (South)	10.5	B	8.6	A	10.5	B	8.7	A	NO
4	Jardine Avenue & Foothill Boulevard	67.9	F	58.6	F	69.3	F	59.4	F	NO[2]
5	Mt. Gleason Avenue & Foothill Boulevard	0.6	A	0.6	A	0.6	A	0.6	A	NO
6	Tujunga Canyon Boulevard & Summitrose Street	11.7	B	9.4	A	11.9	B	9.6	A	NO
7	Redmont Avenue & Summitrose Street	9.2	A	9.1	A	9.2	A	9.2	A	NO
8	Tujunga Canyon Boulevard & Apperson Street	16.1	C	10.9	B	16.5	C	11.1	B	NO
9	Tujunga Canyon Boulevard & Valmont Street	13.3	B	10.5	B	13.6	B	10.7	B	NO
10	Tujunga Canyon Boulevard & Foothill Boulevard	0.800	C	0.7	C	0.806	D	0.7	C	NO

Notes: [1] A.M. Peak Period is 8:00 to 10:00 a.m.; P.M. Peak Period is 4:00 to 6:00 p.m.
[2] Based on peak-hour signal warrant analysis provided in Appendix E.
Source: Appendix E

Table 3.4-7. Construction Traffic Volume Impacts – Street Segments

	Street Segment	Peak Period	Existing Conditions			With Project Construction			Significant Change in V/C or LOS?
			ADT Volume	V/C Ratio	Existing LOS	Temporary ADT Volume	Temporary V/C Ratio	Temporary LOS	
A	Hillrose Street Between Mt. Gleason Avenue & Tujunga Canyon Boulevard	A.M.	267	0.167	A	278	0.174	A	NO
		P.M.	238	0.149	A	249	0.156	A	NO
B	Hillrose Street Between Hillrose Street & Summitrose Street	A.M.	198	0.124	A	200	0.125	A	NO
		P.M.	109	0.068	A	111	0.069	A	NO
C	Mt. Gleason Avenue Between Hillrose Street & Summitrose Street	A.M.	559	0.349	A	568	0.355	A	NO
		P.M.	454	0.284	A	463	0.289	A	NO
D	Tujunga Canyon Boulevard Between Hillrose Street & Summitrose Street	A.M.	536	0.335	A	558	0.349	A	NO
		P.M.	362	0.226	A	384	0.240	A	NO
E	Redmont Avenue Between Hillrose Street & Summitrose Street	A.M.	18	0.011	A	20	0.013	A	NO
		P.M.	23	0.014	A	25	0.016	A	NO
F	Summitrose Street Between Mt. Gleason Avenue & Tujunga Canyon Boulevard	A.M.	323	0.202	A	328	0.205	A	NO
		P.M.	358	0.224	A	363	0.227	A	NO
G	Tujunga Canyon Boulevard Between Summitrose Street & Apperson Street	A.M.	665	0.416	A	680	0.425	A	NO
		P.M.	479	0.299	A	494	0.309	A	NO
H	Tujunga Canyon Boulevard Between Apperson Street & Valmont Street	A.M.	675	0.422	A	689	0.431	A	NO
		P.M.	566	0.354	A	580	0.363	A	NO

Notes: [1] A.M. Peak Period is 8:00 to 10:00 a.m.; P.M. Peak Period is 4:00 to 6:00 p.m.
Source: Appendix E

Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways (Criterion TRA2)

Impact T-2: Construction or operational daily vehicle trips would conflict with Congestion Management Program performance standards.

Impacts to CMP Arterials. The nearest CMP monitoring location to the Project study corridor is Angeles Crest Highway and I-210 WB Off-Ramp, which is located approximately 6.4 miles to the east of the Project site. Based on the trip generation, distribution, and anticipated detour routes of the Project (presented in detail within Appendix E), it is not expected that 50 or more construction Project trips would be added to this nearby CMP intersection. Therefore, no further analysis of potential CMP impacts is required and Project-related trips would have a less than significant impact.

Impacts to CMP Freeways. The nearest CMP mainline freeway-monitoring location to the Project site is on the I-210 freeway at Terra Bella Street. This location is located approximately 5.9 miles to the northwest of the site. The proposed Project is expected to add less than 150 new trips per hour, in either direction, to any freeway segment based on the Project trip generation. Therefore, no further analysis of CMP freeway monitoring stations is required and Project-related trips would have a less than significant impact.

Mitigation Measures for Impact T-2

None.

Level of Significance After Mitigation

The temporary addition of construction trips to the CMP freeway network would result in less than significant impacts.

Temporarily impede traffic flow or access (Criterion TRA3)

Impact T-3: Construction would temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access and/or restrict the movements of vehicles (including emergency vehicles) such that there would be no reasonable alternative access routes available

Due to the small size of the Project site, periodic staging and work activities are expected to take place along Tujunga Canyon Boulevard and other adjacent roadway segments, as needed. During each major phase of construction, the following temporary roadway disruptions are assumed during work hours:

- During the 10-day grading phase, in order to allow for proper site access for dump trucks, temporary lane or road closures may be needed as the trucks enter and exit the site. The frequency and length of the closures is anticipated to be minimal.
- During half (48-days) of the 95-days of concrete pours, a concrete pump truck and concrete trucks are anticipated to work on the public street, which will lead to temporary roadway and lane closures. If the trucks stage on Redmont Avenue, temporary on-street parking restrictions are also anticipated.

- During large equipment deliveries, trucks staging is anticipated to occur on the street as well as the use of cranes to unload materials from delivery trucks. This could also cause temporary lane and road closures, yet they are anticipated to be more transitory in nature.
- Waste hauling from demolition will also require large trucks to gain access to the Project site and temporary lane or road closures may be needed during ingress/egress.
- Much of the activity outlined above is expected to take place on Tujunga Canyon Boulevard, resulting in temporary road and lane closures expected to take place within that segment. However, all of the above mentioned activities are expected to cause temporary road and lane closures near the Project site. It should be noted these temporary impacts would only occur during daytime hours Monday through Friday. Mitigation Measure T-3a is proposed to reduce potential impacts regarding residential access and vehicle movements (including emergency service vehicles) through the impacted street segments. Even with mitigation incorporated, temporary circulation impacts are expected to be significant and unavoidable along the segments of Tujunga Canyon Boulevard, Redmont Avenue, and Summitrose Street containing the Project site.

Mitigation Measures for Impact T-3

T-3a **Construction Traffic Control Plan**. Prior to the start of construction, a Construction Traffic Control Plan shall be prepared by the Los Angeles Department of Water and Power for review and approval by the Los Angeles Department of Transportation. The Construction Traffic Control Plan shall include, but not be limited to:

- Signage within the construction corridors for traffic, in advance of the first encountered work area, warning of potential delays ahead on the route.
- Outline specific traffic controls to be used (signage, flag-persons, etc.) to mitigate traffic impacts at roadway locations where one-way-only traffic flow is created, due to the number of travel lanes being reduced from two to one.
- Means to notify adjacent properties directly in advance of any access restrictions, if needed for short duration.
- Signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; and parking restrictions during construction.
- Identify where lanes will be reduced to one-lane; where parking is not feasible on-street, temporary signs should be placed indicating “park off-pavement.”
- All means to control traffic during construction shall adhere to the guidelines contained in Standard Specifications for Public Works Construction used by many municipalities in California and Caltrans’ Traffic Manual, Chapter 5, “Manual of Traffic Controls for Construction and Maintenance Work Zones” and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.
- Plans to coordinate in advance with the nearest emergency service providers (fire and police stations) to avoid restricting the movements of emergency vehicles. The nearest stations shall be notified in advance by the LADWP of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where vehicle travel will be temporarily disrupted, provisions shall be ready at all times to accommodate emergency

vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with LADOT.

- Provisions for ensuring detours or safe movement of pedestrians and bicycles through all affected facilities.
- Plans to coordinate with affected bus transit agencies (Metro) at least one month prior to construction to minimize the impacts associated with the interruption of bus transit service or stops (if applicable).

Level of Significance After Mitigation

Even with implementation of Mitigation Measure T-3a, lane and roadway disruptions during construction would cause temporary significant and unavoidable traffic flow impacts. A statement of overriding considerations is required for this impact.

Temporarily increase roadway hazards, including damage to public roadways (Criterion TRA4)

Impact T-4: Construction would increase hazards due to a design feature or incompatible uses or otherwise result in unsafe conditions on public roads

The area near the Project site does not have existing pedestrian facilities or sidewalks. However, pedestrian activities were observed adjacent to the site. There are no bus transit stops near the Project site. Mitigation Measure T-3a includes provisions to ensure Project construction activities and traffic do not significantly impact pedestrian, bicycle, and transit movements through the study area. With the incorporation of this mitigation, hazard impacts to the surface transportation network during construction would be less than significant.

The movement of heavy trucks and equipment on roadways adjacent to the Project site could potentially result in damage to road surfaces, shoulders, curbs, and signs. Mitigation Measure T-4a is proposed to ensure any damage and deterioration attributed to Project construction would be repaired. With the incorporation of this mitigation, hazard impacts from transportation facility damage demonstrable to the Project would be less than significant.

Mitigation Measures for Impact T-4

T-3a **Construction Traffic Control Plan**.

T-4a **Repair Roadways and Transportation Facilities Damaged by Construction Activities.** If roadways, curbs, shoulders, or other such transportation features are damaged by Project construction activities, as determined by the affected public agency, such damage shall be repaired and restored to their pre-Project condition by the LADWP. Prior to construction, the LADWP shall confer with LADOT regarding any expected repairs. At least 30 days prior to construction, the LADWP shall photograph or video record all transportation facilities within 300 feet in each direction of the Project site, and shall provide copies of these images to LADOT upon request.

At the end of major construction, the LADWP shall repair any damage demonstrable to Project construction to pre-construction condition or better within 60 days, or on a schedule mutually agreed to the LADWP and LADOT.

Level of Significance After Mitigation

With implementation of Mitigation Measures T-3a and T-4a, hazards from potential roadway damage would be less than significant.

Temporarily impact available street parking (Criterion TRA5)

Impact T-5: Construction would disrupt available street parking or significantly alter existing parking patterns

The parking characteristics of the street segments immediately surrounding the Project site are as follows:

- Tujunga Canyon Boulevard, between Hillrose Street and Summitrose Street. This street segment has one lane of traffic in each direction, with each lane measuring 16 feet in width and separated by a double-yellow line. No on-street parking is permitted on either side of the street. Vehicles are permitted to park adjacent to the street within private property, just outside of the public right-of-way.
- Redmont Avenue, between Hillrose Street and Summitrose Street. This street segment has one lane of traffic in each direction, with the entire roadway measuring 25 feet in width. No on-street parking is permitted on the west side of the street, which is the side where the RPS site is located. Vehicles are permitted to park on-street on the east side of the street.
- Summitrose Street, between Tujunga Canyon Boulevard and Redmont Avenue. This street segment has one lane of traffic in each direction, with the entire roadway measuring 30 feet in width. No on-street parking is permitted on either side of the street. Vehicles are permitted to park adjacent to the street within private property, just outside of the public right-of-way.

On-street parking impacts are anticipated only when staging or access to the RPS site occurs on Redmont Avenue, as that is the only street segment near the site with on-street parking. As discussed under Impact T-3, such parking disruptions are expected during large equipment deliveries and concrete pours. These activities are expected to cause temporary on-street parking restrictions near the Project site. It should be noted these temporary impacts would only occur during daytime hours Monday through Friday. Mitigation Measures T-3a is proposed to reduce potential impacts regarding the temporary loss of parking near the Project site. With the incorporation of this mitigation, impacts resulting from temporary loss of parking would be less than significant.

Mitigation Measures for Impact T-5

T-3a Construction Traffic Control Plan.

Level of Significance After Mitigation

With implementation of Mitigation Measure T-3a, temporary impacts to parking availability would be less than significant.

3.4.5 Cumulative Impact Analysis

The geographic area of the cumulative transportation and traffic impact analysis is the study area intersections and roadway segments identified in Tables 3.4-2 and 3.4-3, respectively. This geographic area was selected because these are the only transportation routes utilized by the proposed Project. It is assumed that only cumulative projects identified in Section 2.4, Table 2-4, in close proximity to Project study area segments and intersections have the potential to cumulatively impact traffic volumes and physical conditions on these roadways and intersections. While cumulative projects outside the immediately defined geographic area could have an effect on the traffic volumes shown in Tables 3.4-2 and 3.4-3, the impacts would be more from an ambient/regional growth rate that was applied to the existing traffic volumes.

As discussed under Impact T-1, the addition of vehicle trips from proposed Project construction would not temporarily deteriorate existing performance standards of study area intersection or roadway segments. Therefore, the Project would not have a significant cumulative contribution from temporary vehicle trips. The primary impact of the Project is from temporary lane disruptions adjacent to the Redmont Pump Station (refer to Impact T-3). The cumulative projects identified in Section 2.4, Table 2-4, are all located more than a mile from the Project site and would not result in activities that could overlap in a manner that could cause significant cumulative effects related to temporary lane disruptions adjacent to the Project site. Furthermore, vehicle trips from cumulative projects are not expected to travel along roadway segments adjacent to the Redmont Pump Station during construction. Therefore, the cumulative traffic and transportation impacts would be less than significant.

4. Alternatives

The Redmont Pump Station and Tank Project (Alternative 1 or proposed Project) is described in detail in Section 2 (Project Description). This section describes the alternatives to the proposed Project, the alternatives screening process, and the potential environmental effects of alternatives retained for analysis. The intent of this section is to document (1) the range of alternatives that have been selected and evaluated; (2) the approach used by the LADWP in screening the feasibility of these alternatives according to guidelines established under CEQA; (3) the results of the alternatives screening; and (4) the environmental impacts of each alternative relative to the proposed Project.

This section is organized as follows:

- Section 4.1 summarizes CEQA requirements related to alternatives;
- Section 4.2 describes the process used to define alternatives to the proposed Project;
- Section 4.3 describes the alternatives that were considered, but eliminated from detailed evaluation;
- Section 4.4 describes the alternatives retained for analysis, including the No Project Alternative (CEQA Guidelines §15126.6(e)), and presents impact analysis by topic for each of these alternatives; and
- Section 4.5 presents the Environmentally Superior Alternative (CEQA Guidelines §15126.6(d)).

4.1 CEQA Requirements for Alternatives

An important aspect of EIR preparation is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. The CEQA Guidelines require consideration of the No Project Alternative (§15126.6(e)) and selection of a reasonable range of alternatives (§15126.6(d)). The EIR must adequately assess these alternatives to allow for a comparative analysis for consideration by decision makers. The CEQA Guidelines (§15126.6(a)) state that:

> *An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*

The key applicable provisions of the CEQA Guidelines (§15126.6) pertaining to the analysis of alternatives are summarized as follows:

- The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The "no project" alternative shall be evaluated along with its impact. The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice between the alternatives and

the proposed project. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

4.1.1 Consistency with Project Objectives

The CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives" (§15126.6(b)). The objective of the proposed Project is to replace the existing Redmont Pump Station and Redmont Tank to ensure continued water delivery to the communities of Tujunga and Sunland during both average and peak water demand periods.

4.1.2 Feasibility

The CEQA Guidelines (§15364) defines feasibility as:

> *...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.*

In addition, the CEQA Guidelines §15126.6(f)) states that in determining the range of alternatives to be evaluated in the EIR, the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites. The feasibility of potential alternatives has been assessed taking the following factors into account:

Legal Feasibility: Does the alternative have the potential to avoid lands that have legal protections that may prohibit or substantially limit the feasibility of permitting the Redmont Pump Station and Tank Project?

Regulatory Feasibility: Does the alternative have the potential to avoid lands that have regulatory restrictions that may substantially limit the feasibility of, or permitting of, the Redmont Pump Station and Tank Project?

Technical Feasibility: Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

Environmental Feasibility: Would implementation of the alternative cause substantially greater environmental damage than the proposed Project, thereby making the alternative clearly inferior from an environmental standpoint?

This screening analysis does not focus on relative economic factors or costs of the alternatives (as long as they are found to be economically feasible) since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines §15126.6[b]). The LADWP's proceedings will separately and specifically consider cost issues.

4.1.3 Potential to Eliminate Significant Environmental Effects

CEQA requires that to be fully considered in an EIR, an alternative must have the potential to *"avoid or substantially lessen any of the significant effects of the project"* (CEQA Guidelines §16126.6(a)). If an alternative was identified that clearly does not provide potential overall environmental advantage as compared to the proposed Project, it was eliminated from further consideration. At the screening stage, it is not possible to evaluate all of the impacts of the alternatives in comparison to the proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area.

4.2 Alternatives Screening and Evaluation Process

In compliance with CEQA's requirements, each alternative that has been developed for this analysis has been evaluated in three ways:

- Does the alternative accomplish the basic objective of the proposed Project, to replace the existing Redmont Pump Station and Redmont Tank to ensure continued water delivery to the communities of Tujunga and Sunland during both average and peak water demand periods?
- Is the alternative potentially feasible (from economic, environmental, legal, social, technological standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed Project)?

Three alternatives were developed to address the aging facilities at the Redmont Pump Station and Redmont Tank. Alternatives that were determined to be infeasible or to not offer an overall environmental advantage to the proposed Project are described in Section 4.3, while alternatives that were carried forward for further analysis in the EIR are described in Section 4.4.

4.3 Alternative Considered but Eliminated from Further Analysis

The following alternative was considered but eliminated, as it did not meet the CEQA criteria defined in Section 4.1.

Fernglen Avenue Site

Alternative Description. The Fernglen Avenue Site Alternative identified for relocation of the Redmont Pump Station is located at 10454 Fernglen Avenue. It was considered by the LADWP as an alternative pump station site when the property owner indicated a willingness to sell this property. Located at the southwest corner of Summitrose Street and Fernglen Avenue, the 9,000 square-foot property has good vehicle access. A total of 600 feet of underground connecting water pipelines would be constructed between the proposed replacement pump station site and the existing Redmont Reservoir. This alternative would not include replacement of Redmont Reservoir.

Project Objectives. The Fernglen Avenue Site Alternative would improve system reliability and efficiency to reduce the operations and maintenance costs of the existing water system, as well as update control system design to meet current engineering standards and technology.

Feasibility. The Fernglen Avenue Site Alternative was evaluated by the LADWP in 2010 and a decision was made to purchase the property. However, the property was sold to another buyer in 2011 and is no longer available as a feasible alternative site for relocating Redmont Pump Station.

Environmental Advantages/Disadvantages. The Fernglen Avenue Site Alternative is surrounded by single family residential homes. Noise, air quality, and traffic-related impacts to sensitive receptors would be similar as those that would occur under the proposed Project.

Alternative Conclusion: *ELIMINATED*. The Fernglen Avenue Site Alternative was eliminated due to its unavailability for purchase. Further, this alternative would not avoid air quality, noise, or traffic-related impacts to sensitive receptors.

4.4 Alternatives Retained for Analysis

This section describes and evaluates the alternatives that meet the CEQA criteria defined in Section 4.1 and thus have been retained for the EIR's alternatives analysis. The No Project Alternative is described and analyzed in Section 4.4.2.

4.4.1 Alternative 1 (Pipeline Reroute and RPS Upgrade)

Description

Alternative 1 is proposed as a construction alternative to avoid the excavation activities that would occur under the proposed Project. Alternative 1 would construct a new pump station at the undeveloped property located approximately 1,500 feet north of the existing pump station at 10709 North Tujunga Boulevard. The property is owned by the Los Angeles County Department of Public Works (LACDPW).

Under Alternative 1, the new pump station would entail the construction of a dual zone pump station with six pumps (three for the 1960 system and three for the 2086 system) and one I.C. pump. Alternative 1 also requires 4,500 feet of inlet/outlet pipe (1,500 feet of suction line, 1,500 feet of discharge line to the 2086-foot pressure zone, and 1,500 feet of discharge line to the 1960-foot pressure zone). The new pipe would be constructed along Tujunga Canyon Boulevard through existing residential communities in Sunland and Tujunga to connect the Alternative 1 pump station with the existing Redmont Reservoir.

At the Redmont site, the existing Redmont Pump Station would be demolished and the roof of the existing Redmont Reservoir would be replaced to improve its condition and to extend its service life.

Objectives

Alternative 1 would meet the following proposed Project objectives: (1) to address firefighting water needs at the new Canyon Hills Development (i.e., Tract 61672); (2) to improve the condition and lifespan of the existing Redmont Reservoir; (3) to update the control system design, and (4) to eliminate low suction issues faced by the current system during the summer months.

Feasibility

This alternative is potentially feasible from economic, environmental, legal, social, and technological standpoints.

Impact Analysis by Issue Area

Air Quality and Greenhouse Gas Emissions

Assuming similar construction schedules and task overlaps for the construction of the new pump station, the construction and O&M regional air quality impacts for Alternative 1 would be similar in magnitude to those determined for the proposed Project, so the regional emissions impacts would remain less than significant. The additional underground water pipe construction activity would be more than compensated for by this alternative not requiring demolition of the existing Redmont Tank or construction of a new tank. Therefore, the peak localized impacts at the Redmont Pump Station site would be reduced (under Alternative 1) due to the reduction in tank demolition and excavation and grading activities associated with a new tank (as required by the proposed Project). However, the Alternative 1 pump station site is also sited directly adjacent to residences so it is likely that while the fugitive dust impacts will be lower in magnitude than the proposed Project, the total PM10 and PM2.5 emissions could still exceed the very low applicable localized significance thresholds at both project sites for periods of time during the construction and demolition activities required for Alternative 1. It is expected that this alternative would require implementation of Mitigation Measure AQ-5a to reduce fugitive dust emissions during construction, and Mitigation Measure AQ-7a to reduce DPM emissions during construction. All other air quality impacts are expected to be similar to, although potentially slightly less adverse than, those identified for the proposed Project.

Assuming similar construction schedules and task overlaps, the greenhouse gas emissions impacts would be similar in magnitude to those determined for the proposed Project. However, due to what is expected to be a slight overall decrease in overall construction requirements, greenhouse gas emissions impacts from construction would be slightly less adverse for Alternative 1 than the proposed Project. The indirect impacts from operation from this alternative would be expected to be slightly higher than for the proposed Project because the pump station would be at a lower elevation, but the tank would not, and this would cause both a greater length of pipe to pump through and head to reach the delivery water locations, which together should cause more horsepower to be required for the necessary water deliveries.

Noise and Vibration

Alternative 1 would include the construction of a new pump station at 10709 North Tujunga Boulevard, 4,500 feet of new inlet/outlet pipe along Tujunga Canyon Boulevard (through existing residential communities in Sunland and Tujunga) to connect the pump station with the existing Redmont Reservoir, demolition of the existing Redmont Pump Station, and roof replacement of the Redmont Reservoir to improve its condition and extend its service life. While these construction activities are not expected to result in greater noise levels, they would occur for longer periods of time (longer construction schedule) and affect a greater number of receptors due to the new pipeline and pump station. Temporary noise levels are expected to exceed 75 dBA, with an increase in the number of days this occurs. As such, while the duration of impacts would be extended, the impact determinations would remain the same as identified in Section 3.3 and the same mitigation measures would be required (significant and unavoidable impacts during construction and less than significant impacts during operation).

Traffic and Transportation

Construction of Alternative 1 would result in temporary lane closures or lane width reductions at locations where the construction activities would occur adjacent to the new pump station location (10709 North Tujunga Boulevard), along the 4,500 feet of Tujunga Canyon Boulevard where new pipe is

required to connect the Alternative 1 pump station with the existing Redmont Reservoir, and at the exiting Redmond Pump Station site due to demolition of the existing Redmont Pump Station and reconstruction of the Reservoir roof. This would result in new disruptions along Tujunga Boulevard (increasing the amount of affected roadways requiring temporary lane disruptions when compared to the proposed Project), as well as increasing the total number of daily vehicle trips required for construction. While Alternative 1 would result in increased impacts during construction when compared to that occurring under the proposed Project, mitigation identical to that discussed in Section 3.4 (primarily the preparation of a Construction Traffic Control Plan) would be recommended to reduce temporary impacts from roadway disruption and trip generation to the extent feasible. Construction of Alternative 1 would generate significant and unavoidable traffic flow impacts, thereby requiring a statement of overriding considerations.

Conclusion- Alternative 1

The regional effects of construction and O&M of Alternative 1 would be similar to the proposed Project, and would require the same mitigation measures proposed in Sections 3.2 through 3.4. Although variations in localized impacts would occur under Alternative 1 as described above, there would be no change to the level of significance anticipated from air quality, noise and traffic impacts.

4.4.2 Alternative 2 (No Project Alternative)

The requirements for the No Project Alternative analysis are defined under Section 15126.6 (e) of the CEQA Guidelines. Specific requirements relevant to this Project include:

- A No Project Alternative is required to be analyzed by all decision makers to compare approving and not approving the proposed Project. (Section 15126.6 (e)(1)).
- The No Project Alternative shall discuss the existing conditions at the time the notice of preparation is discussed. (Section 15126.6 (e)(2)).
- The discussion would compare the environmental effects of the property remaining in its existing state against the environmental effects that would occur if the Project is approved. The lead agency should proceed to analyze the impacts of the No Project Alternative by projecting what would occur in the reasonable future if the Project would not occur. (Section 15126.6 (e)(3)(B) and (C).

Under the No Project Alternative as defined for this Project, LADWP would continue to use the existing RPS and RT in its current condition. However, due to the age of the infrastructure and increasing operational and maintenance issues, the Sunland-Tujunga service area would likely experience periodic interruptions in water service. LADWP has determined that there is a high risk and probability that failure would occur at the existing facility. In the event that the existing RPS were to fail, it would disrupt LADWP's interconnected water system that utilizes a series of five pump stations to supply water from the Green Verdugo Reservoir to the Sunland-Tujunga service area. Because there are no secondary sources of water supply to this service area, available water would be limited to the water stored in the tanks throughout the system. Given the size of the tanks, the amount of available water that could supply the Sunland-Tujunga service area after a failure of RPS would be the following:

- The 2086-foot and 1960-foot pressure zones have a combined storage 1.6 million gallons (i.e., Highway Highlands Tank and Apperson Tank). During a Typical Summer Day (TSD), total demand is 2.6 million gallons. Supply may last one-half day or less.
- The 2140-foot and 2440-foot pressure zones have 0.5 million gallons of storage from the Sister Elsie Tank. During a TSD, total demand is 0.4 million gallons. Supply may last one day or less.

- The 2200-foot pressure zone has one million gallons of storage from the Estepa Tank. During a TSD, total demand is 0.27 million gallons. Supply may last two to three days.

The No Project Alternative would result in an unreliable water supply to the Sunland-Tujunga service area, and would increase the risk of safety hazards due to the poor condition of the aging infrastructure. None of the Project objectives would be achieved by this alternative.

Impact Analysis by Issue Area

Air Quality and Greenhouse Gas Emissions

There would be no direct air quality or GHG emissions impacts from Alternative 1. However, there could be indirect impacts if water is not available as necessary for firefighting operations due to partial or total operational failures due to the existing reliability issues at the Redmont Pump Station. These indirect impacts would be increased air pollutant and GHG emissions associated with fires that are not quickly extinguished or that spread due to issues with water availability, and the additional emissions associated with rebuilding damaged structures that may have been necessary.

Noise and Vibration

The noise impacts associated with the proposed Project would not occur under the No Project Alternative. There would be no direct noise impacts associated with construction or operation of the proposed Project. It is probable that other water pumping upgrade projects would be implemented in lieu of the proposed Project because added storage and pumping capacity would be needed. The noise impacts for these other projects would likely be similar to those identified for the proposed Project, but would occur at other facilities in different locations.

Traffic and Transportation

The transportation and traffic impacts associated with the proposed Project would not occur under the No Project Alternative. There would be no direct or indirect impacts associated with temporary travel lane disruptions or vehicle trip generation. It is probable that other water pumping upgrade projects would be implemented in lieu of the proposed Project because added storage and pumping capacity would be needed. The transportation and traffic impacts for these other projects would likely be similar to those identified for the proposed Project, but would occur at other facilities in different locations.

Conclusion- Alternative 2

Alternative 2 would avoid the air quality, noise, and traffic impacts discussed in Sections 3.2 through 3.4. However, this alternative does not achieve the Project objectives, and therefore a future pumping and storage project would be required to maintain a reliable water supply to the Sunland-Tujunga service area. Future projects would generate air quality emissions, construction noise, and traffic disruptions that would likely be of similar or greater magnitude as the proposed Project, and would require similar mitigation.

4.5 Comparison of Alternatives

Table 4-1 presents a comparison of the potential significant impacts of the proposed Project with impacts of the alternatives. Based on the analysis presented in this section and on the impact analysis for the proposed Project presented in Section 3 of this EIR, the proposed Project is the environmentally superior alternative. The proposed Project would not require construction of new pipe through existing

residential communities (as proposed under Alternative 1), and therefore construction-related noise and traffic impacts would affect less receptors than Alternative 1. Alternative 1 would reduce the localized air emissions anticipated under the proposed Project by not including replacement of Redmont Reservoir as part of the alternative. However, LADWP anticipates that this reservoir would need to be replaced in the future due to the age of the existing facility, which would generate similar air quality emissions as the proposed Project. To address the issue of fugitive dust, the proposed Project would incorporate dust control mitigation to minimize emissions to the extent feasible. As Alternative 2 would likely require a future project to address existing reliability and safety concerns at Redmont Pump Station and Reservoir, this alternative would contribute to future air quality, noise, and traffic impacts that would be similar to, if not greater than, the proposed Project. Consequently, the proposed Project best accomplishes the Project objectives while avoiding or mitigating construction and O&M-related impacts.

Table 4-1. Comparison of Alternatives

Environmental Resource	Impact Severity Compared to Proposed Project		
	Proposed Project	Alternative 1: Pipeline Reroute and RPS Upgrade	Alternative 2: No Project
Air Quality and Greenhouse Gas Emissions	Regional emission impacts would be less than significant. On-site PM10 and PM2.5 emissions would be significant and unavoidable during construction.	Peak localized air quality effects would be less than the proposed Project. Overall impacts would remain less than significant. Future Reservoir replacement may be required.	No impact. Future project would generate impacts of similar magnitude as the proposed Project
Noise and Vibration	Onsite noise during construction would be significant and unavoidable. A statement of overriding considerations is required.	Noise impacts would be greater than the proposed Project due to an extended construction schedule and increased number of receptors affected. Impacts would remain significant and unavoidable, and a statement of overriding considerations is required.	No impact. Future project would generate impacts of similar magnitude as the proposed Project
Traffic and Transportation	Temporary traffic flow impacts would be significant and unavoidable during construction. A statement of overriding considerations is required.	Construction creates new disruptions along Tujunga Blvd. Also increases temporary lane disruptions and the total daily construction vehicle trips.	No impact. Future project would generate impacts of similar magnitude as the proposed Project

5. Other CEQA Considerations

Section 15126 of the CEQA Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment. As part of this analysis, the EIR must also identify: (1) significant environmental effects of a proposed project; (2) significant environmental effects that cannot be avoided if a proposed project is implemented; (3) significant irreversible environmental changes that would result from implementation of a proposed project; (4) growth-inducing impacts of a proposed project; (5) mitigation measures proposed to minimize significant effects; and (6) alternatives to a proposed project.

Table ES-1 (Summary of Impacts and Mitigation Measures) in the EIR Executive Summary and Sections 3.2 through 3.4 identify the significant environmental effects of the proposed Project, and feasible mitigation measures to reduce the magnitude of impacts. Alternatives to the proposed Project are described and analyzed in Section 4. The following discussion addresses growth-inducing effects (Section 5.1), significant irreversible environmental changes (Section 5.2), and significant effects that cannot be avoided (Section 5.3).

5.1 Growth-Inducing Effects

Background

In accordance with Section 15126.2(d) of the CEQA Guidelines, an EIR must "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." In addition, when discussing growth-inducing impacts of a proposed project, "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Section 15126.2(d) of the CEQA Guidelines). Two issues must be considered when assessing the growth-inducing impacts of a project:

- **Elimination of Obstacles to Population Growth.** The extent to which additional infrastructure capacity or a change in regulatory structure would allow additional development in the Sunland-Tujunga community.
- **Promotion of Economic Growth.** The extent to which a project can cause increased activity in the local or regional economy. Economic impacts can include direct effects, such as the direction and strategies implemented within the area of a project, and indirect or secondary impacts, such as increased commercial activity needed to serve the population growth forecasts for the project area.

Elimination of Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to population growth is considered to be a growth-inducing impact. A physical obstacle to population growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that currently do not have these services is expected to support new development. The proposed Project would not include the construction or operation of the Canyon Hills Development project's future 1960-foot tank, associated future 1960-foot system piping to the RPS, or the proposed future emergency 2200-foot pump station located adjacent to the 1960-foot tank. However, one of the objectives of the proposed Project is to be able to provide sufficient water to the future 1960-foot tank to address firefighting water needs for the new residential development. As discussed in Section 2.1.2 (Project History and Background), water supplied to the 1960-foot system

tank will feed a new pump station that will deliver water to the 2200-foot system. Therefore, the proposed Project would indirectly eliminate an obstacle to population growth by delivering water that will meet future demand along the 1960-foot and 2200-foot systems.

Promotion of Economic Growth

The proposed Project would result in direct economic impacts to the City of Los Angeles through employment and the local purchase of some construction materials, as well as secondary impacts from the purchases of goods and services by those employed to construct the proposed Project. However, the proposed Project would not directly or indirectly promote sufficient economic growth to result in a population that would exceed the projections of the Southern California Association of Governments. The number of workers onsite during each phase of Project construction would range from four to 10 workers, and these workers are expected to reside within a daily commuting distance from the Project site. The new RPS would operate as an unmanned pumping station similar to the existing RPS, and regular maintenance activities are not proposed to increase from current maintenance activities at the existing RPS. Operational activities associated with the proposed replacement station would typically include one site visit per week by LADWP personnel for routine maintenance, repair and inspection, and would not require any new LADWP employees.

5.2 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the Project. Specifically, Section 15126.2(c) states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses
- The project would involve a large commitment of nonrenewable resources
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy)
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project

Implementation of the proposed Project would commit nonrenewable energy resources during construction. This includes the use of fossil fuels and energy required for demolishing the existing RT and RPS, grading the site, and construction of the new RPS and RT. Up to 50,000 gallons of water may be required for construction, dust suppression, and hydrostatic testing of the pipelines (LADWP, 2015). Operation of the new pump station would also require the use of electricity from overhead power lines. Therefore, an irreversible commitment of nonrenewable resources would occur during Project construction and pipeline testing, and a small amount of energy resources would be used during operation. However, one of the objectives of the proposed Project is to improve the existing water system's reliability and efficiency. To this end, the Project would not consume water, electricity, and

fossil fuels in an unnecessary, inefficient, or wasteful manner, and would contribute to a more efficient use of these resources over the long-term. Irreversible impacts associated with the proposed Project would be less than significant.

5.3 Significant Effects that Cannot be Avoided

Section 15126.2(b) of the CEQA Guidelines specifies that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the proposed Project would result in the following three significant and unavoidable impacts:

- **Air Quality.** Fugitive dust during Project construction may exceed the SCAQMD LSTs for PM10 and PM2.5. Although Mitigation Measure AQ-5a would ensure that the most effective feasible fugitive dust control methods are applied during construction, the overall reduction in fugitive dust emissions above those already assumed for compliance with Rule 403 cannot be reasonably estimated. As such, localized air quality impacts may remain significant and unavoidable.
- **Noise.** The close proximity of residences to the Project site would result in the Project exceeding 75 dBA at residential receptors. The LADWP would be required to obtain a variance from the City of Los Angeles to temporarily exceed the 75 dBA performance standard identified in LAMC Section 112.05. However, no feasible mitigation measures would reduce this noise-related impact, and construction noise would remain significant and unavoidable.
- **Traffic.** Temporary road and lane closures would occur near the Project site during construction. Even with mitigation incorporated, these disruptions would cause temporary significant and unavoidable traffic flow impacts along the segments of Tujunga Canyon Boulevard, Redmont Avenue, and Summitrose Street containing the Project site

All other significant Project impacts can be mitigated to a less than significant level.

6. List of Preparers and Persons Consulted

6.1 Organizations and Persons Consulted

The EIR Preparers reviewed agency websites for data and regulatory information in preparation of this EIR. The agency websites are listed in their respective technical chapter in Section 7 (References). A list of the agency websites that were consulted are presented below.

- California Air Pollution Control Officers Association
- California Air Resources Board
- California Department of Public Health
- California Department of Transportation
- California Natural Resources Agency
- California Office of the Attorney General
- City of Los Angeles
- Federal Highway Administration
- Federal Transit Authority
- Governor's Office of Planning and Research
- Los Angeles County Metropolitan Transportation Authority
- Los Angeles County Public Health
- Los Angeles Department of Water and Power
- Occupational Safety & Health Administration
- South Coast Air Quality Management District
- Centers for Disease Control and Prevention
- U.S. Environmental Protection Agency

6.2 Preparers and Contributors

In accordance with State CEQA Guidelines Section 15036(d)(6), Table 6-1 provides a listing of the persons who prepared this EIR. Table 6-2 provides a listing of those persons who participated in its review.

Table 6-1. EIR Preparers and Contributors

Company Affiliation and Name	Role
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William Walters, P.E.	Project Description, Air Quality and Climate Change
Scott Debauche	Noise, Traffic and Transportation
Tatiana Inouye	Executive Summary, Introduction, Cumulative Scenario, Introduction to Environmental Analysis, Alternatives; Other CEQA Considerations, EIR Preparers and Reviewers
Kati Simpson	Graphics, Document Production
Emily Chitea	Editor, Document Production
Los Angeles Department of Water and Power	
Stephanie Eatinger	Effects Not Found to be Significant

Table 6-2. EIR Reviewers

Name	Affiliation	Title
Nadia Parker	Los Angeles Department of Water and Power	Environmental Supervisor
Stephanie Eatinger	Los Angeles Department of Water and Power	Environmental Engineering Associate
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Priscilla Gonzales	Los Angeles Department of Water and Power	Civil Engineering Associate

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8. Glossary, Acronyms, and Abbreviations

8.1 Glossary

100 Year Flood – A stream flow caused by a discharge that is exceeded, on the average, only once in 100 years. A 100 year flood has a 1 percent chance of occurrence in any given year.

A-weighting – A frequency measure of noise, which simulates human perception.

Air quality standard – The specified average concentration of an air pollutant in ambient air during a specified time period, at or above which level the public health may be at risk; equivalent to AAQS.

Ambient air – Any unconfined portion of the atmosphere; the outside air.

Ambient noise level – Noise from all sources, near and far. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Baseline – A set of existing conditions against which change is to be described and measured.

Carbon monoxide (CO) – A colorless, odorless, toxic gas produced by incomplete combustion of carbon in fossil fuels.

CI spores – Spores of the fungus Coccidioides immitis. Inhalation of these spores causes the fungal infection Coccidioidomycosis, also known as San Joaquin Valley Fever.

CO2e - CO2 equivalent, a measure for reporting greenhouse gas emissions.

Cultural resource – Places or objects important for scientific, historical, and religious reasons to cultures, communities, and individuals.

Cumulative impact – Two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts.

dBA – The A-weighted decibel scale representing the relative insensitivity of the human ear to low-pitched sounds; decibels (dB) are logarithmic units that compare the wide range of sound intensives to which the human ear is sensitive.

Emission – Unwanted substances released by human activity into air or water.

Emission limit – A regulatory standard that restricts the discharge of an air pollutant into atmosphere.

Environmental Impact Report (EIR) – An environmental impact assessment document prepared in accordance with the California Environmental Quality Act (CEQA).

Environment – The physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is where significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and artificial conditions.

Fugitive Dust – Airborne soil particles.

Groundborne Noise/Vibration – Generated by vibration building surfaces such as floors, walls, and ceilings that radiate noise inside buildings when the source of the vibration is exterior to the building.

Groundwater – Water formed underground in soil pore spaces and in the fractures of rock formations. It is stored in and moves slowly through geologic formations of soil, sand, and rocks called aquifers.

Headloss – A certain amount of energy is required to move a given volume of liquid through a pipe. A portion of that energy is lost to the resistance to flow, which is referred to as headloss.

Impact – The effect of the Project that would occur absent mitigation measures. Direct impacts are those that are caused by and immediately related to the proposed Project. Indirect impacts would occur later in time or farther removed in distance, but are still reasonably foreseeable effects of the proposed Project.

Invertebrate – Animals that lack a spinal column.

Leq – Energy-equivalent sound level; average level of sound determined over a specific period of time.

Lead Agency – The agency responsible for preparation of the CEQA document. For the proposed Redmont Pump Station and Tank Project, the Los Angeles Department of Water and Power is the Lead Agency under CEQA.

Less than significant impact – An impact that is adverse but that does not exceed the defined thresholds of significance. Less than significant impacts do not require mitigation.

Level of service (LOS)– A measure of roadway congestion, ranging from A (free-flowing) to F (highly congested).

Liquefaction – The process of making or becoming liquid (soils).

Lmax – The maximum noise level during a sound measurement period.

Lmin – The minimum noise level during a sound measurement period.

Mitigation – Measures that avoid or substantially reduce the proposed Project's significant environmental impacts by avoiding or minimizing the degree of impact, or rectifying or compensating for the impact after it occurs.

Nitrogen dioxide (NO2) – A molecule of one nitrogen and two oxygen atoms. Results usually from further oxidation of nitric oxide (NO) in the atmosphere. Ozone accelerates the conversion.

Ozone (O3) – A molecule of three oxygen atoms. Ozone is a colorless gas formed by a complex series of chemical and photochemical reaction of reactive organic gases, principally hydrocarbons, with the oxides of nitrogen, which is harmful to the public health, the biota, and some materials.

Oxides of nitrogen (NOx) – Poisonous and highly reactive gases produced when fuel is burned at high temperatures, causing nitrogen in the air to combine with oxygen.

Paleontological resource – Fossilized remains of ancient plants and animals and the traces thereof (e.g., track ways, imprints, burrows, etc.).

Particulate matter (particulates) – Very fine sized solid matter or droplets, typically averaging one micron or smaller in diameter. Also called "aerosol."

ppm – Parts per million, a measure of the amount of one substance found in a second, which is the carrier.

PPV – Peak particle velocity, which is used to describe vibratory motion.

Project – The whole of an action that has the potential for resulting in a physical change in the environment, directly or ultimately.

psi – pounds per square inch, a unit to measure pressure.

psig – Pounds per square inch gauge, a measurement of pressure relative to ambient atmospheric pressure.

Riparian – Of or relating to wetlands adjacent to rivers and streams.

Sensitive receptor – Land uses adjacent to or within proximity to the proposed Project that could be impacted by construction, operation, and maintenance activities.

Significant impact – A substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance.

Significant and unavoidable impact – An impact that exceeds the defined thresholds of significance and cannot be eliminated or reduced to a less than significant level through the implementation of mitigation measures.

Siltation – The increased concentration of suspended sediments, and the increased accumulation of fine sediments on the bottoms of water bodies where they are undesirable.

State Implementation Plan (SIP) – A document required periodically from each county by EPA that indicates the progress and the planning of the South Coast Air Quality Management District for improving the quality of its air.

Species – A taxonomic entity that can include recognized subspecies, varieties, population segments, or other genetically or geographically distinct units.

Sulfur oxide (SOx) – The group of compounds formed during combustion or thereafter in the atmosphere of sulfur compounds in the fuel, each having various levels of oxidation, ranging from two oxygen atoms for each sulfur atom to four oxygen atoms.

Sulfur dioxide (SO2) – A corrosive and poisonous gas produced from the complete combustion of sulfur in fuels.

Thresholds of Significance – Resource-specific thresholds, where appropriate, are used to evaluate the significance of environmental impacts. They are based on available resource agency thresholds, such as the South Coast Air Quality Management District's air pollutant and greenhouse gases emissions thresholds, augmented where appropriate with those identified in the Initial Study Checklist included in Appendix G of the CEQA Guidelines, and modified as needed to address potential Project impacts.

Toxic Air Contaminant (TAC) – An air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

µg/m3 – Concentration of an air pollutant such as ozone. Measured in micrograms of gaseous pollutant per cubic meter of ambient air.

V/C – Comparison of the intersection delay in seconds and traffic volume to the overall capacity. Used in the intersection capacity utilization (ICU) methodology.

Volatile organic compounds (VOCs) – Gas emissions from certain solids or liquids (e.g., paint, pesticides, building materials). VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects.

Wetland – Lands transitional between obviously upland and aquatic environments. Wetlands are generally highly productive environments with abundant fish, wildlife, aesthetic, and natural resource values. For this reason, coupled with the alarming rate of their destruction, they are considered valuable resources, and several regulations and laws have been implemented to protect them.

8.2 Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AQMPs	Air Quality Management Plans
ARB	Air Resources Board
BACT	Best Available Control Technology
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	Clean Air Act of 1988
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
Cfs	Cubic feet per second
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CMP	Congestion Management Program
CO	Carbon Monoxide
DPM	Diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
g/bhp-hr	grams of pollutant per brake horsepower hour
GCC	Global climate change
GHG	Greenhouse Gas
gpm	gallons per minute
GWP	Global warming potential
HCM	Highway Capacity Manual
HTP	Hyperion Treatment Plan
IC	Internal combustion
IPCC	Intergovernmental Panel on Climate Change
LACDPW	Los Angeles County Department of Public Works
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAMC	City of Los Angeles Municipal Code
LA SAN	City of Los Angeles Department of Public Works, Bureau of Sanitation
lbs/day	pounds per day

LED	Light-emitting diodes
LID	Low Impact Development
LST	Localized thresholds of significance
MRZ	Mineral Resource Zone
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NO	Nitric oxide
NO2	Nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
O&M	Operation and Maintenance
O3	Ozone
OPR	Office of Planning and Research
PERP	Portable Equipment Registration Program
PLCs	Programmable Logic Controls
PM	Particulate matter
PM10	Respirable particulate matter
PM2.5	Fine particulate matter
PRC	Public Resources Code
RAST	Risk Assessment Standalone Tool
RPS	Redmont Pump Station
RT	Redmont Tank
RTU	Remote Terminal Unit
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO2	Sulfur dioxide
SO3	Sulfur trioxide
SO4	Sulfate compounds
SRA	Source Receptor Area
SUSMP	Standard Urban Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic air contaminant
TIS	Traffic Impact Study
UMD	Ultimate maximum day
USEPA	U.S. Environmental Protection Agency
VOCs	Volatile organic compounds