ENVIRONMENTAL ASSESSMENT

for the

City of Los Angeles

Elysian Park Water Recycling Project Phase 1

U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

April 2014

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TECHNICAL APPENDICES

Acronyms and Abbreviations

AFY	acre-feet per year
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
CAA	Clean Air Act
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CH_4	methane
CHL	California Historic Landmark
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DBA	a-weighted decibel
DTSC	Department of Toxic Substances Control
EID	Environmental Information Document
EIR	Environmental Impact Report
EO	Executive Order
GHG	greenhouse gas emissions
GPM	gallons per minute
I-5	Interstate 5, Golden State Freeway
I-10	Interstate 10, Santa Monica Freeway
IS/MND	Initial Study/Mitigated Negative Declaration
LAA	Los Angeles Aqueduct
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAHCM	Los Angeles Historic-Cultural Monument
LARAP	City of Los Angeles Department of Recreation and Parks
L_{eq}	community noise equivalent level
MOU	memorandum of understanding
MG	million gallons
MWD	Metropolitan Water District
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
O_3	ozone
Pb	lead
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter 10 microns in diameter or less
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SO_2	sulfur dioxide
SO_x	sulfur oxide
SR 110	State Route 110, Pasadena Freeway
SWPPP	Storm Water Pollution Prevention Plan
TMP	Traffic Management Plan

US 101	U.S. Highway 101, Hollywood Freeway
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
WRP	water recycling project

SECTION 1
PURPOSE AND NEED FOR ACTION

1.1 Introduction

The City of Los Angeles (City) relies on four sources of water to meet its water needs: (1) snow-melt runoff from the Eastern Sierra conveyed by the Los Angeles Aqueduct (LAA) (an average of 35.4 percent of the total supply over the last five years); (2) local groundwater (11.4 percent); (3) purchases from the Metropolitan Water District of Southern California (MWD) conveyed from the Colorado River through the Colorado River Aqueduct and the State Water Project via the California Aqueduct (52.3 percent); and (4) recycled water for non-potable uses and indirect reuse (1 percent). Although these water resources have served the City well for decades, several factors have converged that threaten the long-term reliability of these supplies. Climate conditions, such as consecutive years of below-normal snowfall and environmental commitments have severely impacted historical water supply sources.

- Eastern Sierra Watershed: The City's right to export water from the Eastern Sierra is based on approximately 188 water right licenses from various rivers, lakes and creeks in the Mono Basin and Owens Valley. The City's water rights are on file with the California State Water Resources Control Board. The City also owns the majority of land (approximately 315,000 acres) and associated riparian water rights in the Owens Valley. The LAA deliveries from the Eastern Sierra vary with snowpack conditions. In addition, over the last two decades, the City's water deliveries from the LAA have dropped substantially due to reallocation of water for environmental mitigation and enhancement activities. Among these environmental commitments are the State Water Resources Control Board's Mono Lake Decision, which reduced LADWP's ability to export water from the Mono Basin from 90,000 acre-feet per year (AFY) to 16,000 AFY; implementation of the Owens Lake Dust Mitigation Program, to which the LADWP is currently delivering 80,000 AFY to the Owens Dry Lake, but is expected to increase to 95,000 AFY; implementation of the 1997 Memorandum of Understanding (MOU) between LADWP and the MOU Ad Hoc Group, which commits LADWP to supply 1,600 AFY for mitigation identified in the 1991 Water from the Owens Valley to Supply the Second Los Angeles Aqueduct Environmental Impact Report (EIR); and rewatering of the Lower Owens River, where losses are approximately 17,000 AFY.

- Local Groundwater: The City owns groundwater rights in three Upper Los Angeles River Area groundwater basins – the San Fernando, Sylmar, and Eagle Rock basins – as well as the Central and West Coast Basins, as determined by separate judgments by the Superior Court of the State of California. However, groundwater contamination in the San Fernando Basin, where the majority of the City's groundwater supply is produced, has severely limited the City's ability to pump groundwater.

- Purchased Water: MWD's sources of water – the Colorado River, State Water Project, local surface and groundwater storage, and stored/transferred water with Central Valley and Colorado River agencies – are subject to great uncertainty due to climate variability and environmental issues. A Federal Court decision related to the

Sacramento-San Joaquin Bay-Delta resulted in MWD receiving up to 30 percent less of its anticipated State Water Project deliveries. Between April 2009 and April 2011, MWD implemented an allocation plan that limited supplies to member agencies and imposed penalties for exceeding water usage targets.

In response to the challenges facing the City's water supply, the Los Angeles Department of Water and Power (LADWP) has embarked upon an aggressive effort to create reliable and sustainable sources of water for the future of Los Angeles. A key component is to maximize the use of recycled water.

Recycled water is municipal wastewater that has gone through various treatment processes to meet specific water quality criteria with the intent of being used in a beneficial manner. It is conveyed to customers with facilities similar to the potable water system (i.e., pump stations, pipelines, and tanks), but the non-potable facilities are designated by a purple color and/or labeled as recycled water. As a result, non-potable reuse projects are commonly referred to as "purple pipe" projects.

LADWP's 2010 Urban Water Management Plan set a goal of 59,000 AFY of potable water supplies to be replaced by recycled water by 2035 to meet non-potable demand. The City has existing non-potable reuse projects with an average annual reuse of 8,000 AFY and has "Planned" non-potable reuse projects that are under construction or in planning/design with planned construction by fiscal year 2015 with an average reuse of 11,350 AFY. The total potable water offset capacity of these purple pipe projects is 19,350 AFY. The goal of new recycled water projects is to offset the remaining 39,650 AFY of potable water. The non-potable reuse projects that make up the part of this goal are referred to as "Potential."

LADWP proposes to maximize the use of recycled water to replace potable sources for irrigation by extending the recycled water pipeline network to Elysian Park within the downtown area of the City of Los Angeles. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Plan.

The proposed action involves the extension of the City's existing recycled water pipeline network to deliver recycled water to Elysian Park. A proposed new 16-inch recycled water pipeline would be constructed totaling approximately 10,800 linear feet beginning just southwest of the Los Angeles River along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The beginning of the pipeline would connect to the termination point of the Taylor Yard Water Recycling Project (WRP) on the west side of the Los Angeles River. Taylor Yard receives its recycled water from the Los Angeles-Glendale Water Reclamation Plant. The proposed Elysian Park recycled water pipeline would connect to a proposed new approximately 2 million gallon (MG) recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a new recycled water pumping station located on the west side of Interstate 5 (I-5, Golden State Freeway) just inside Elysian Park. The proposed route for the recycled water pipeline would roughly follow Stadium Way. In addition, to provide for the potable water uses within Elysian Park (e.g., restrooms and drinking fountains) and in the event that recycled water is not available during peak demand periods, approximately 1,000 linear feet of 8-inch potable water pipeline is proposed to be constructed connecting from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pumping station would also be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields.

1.2 Legal Framework

This Environmental Information Document (EID) was prepared using the Council on Environmental Quality regulations within Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508, and the United States Environmental Protection Agency (USEPA) regulations 40 CFR Part 6 as guidance. This EID documents the environmental consequences of the proposed federal action. Where appropriate, this EID is based on information contained in the Elysian Park – Downtown Water Recycling Projects Recirculated Initial Study/Mitigated Negative Declaration (IS/MND).[1]

1.3 Project Location

The proposed action would be located in the City of Los Angeles, primarily within Elysian Park, which is located approximately 1.5 miles north of downtown Los Angeles. Dedicated in 1886 and consisting of 575 acres, Elysian Park is the oldest and second largest park in the City. The park is owned by the City of Los Angeles and maintained by the Los Angeles Department of Recreation and Parks (LARAP). Elysian Park is bounded by I-5 on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Access to Elysian Park is provided via Stadium Way, Academy Road, and Solano Avenue.

The proposed recycled water pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River, along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The proposed pipeline within the Elysian Valley neighborhood would abut residential and public facilities uses. The pipeline would extend approximately 700 feet southeast along the bike path to Riverdale Avenue, approximately 1,200 feet southwest on Riverdale Avenue to Blake Avenue, approximately 550 feet northwest on Blake Avenue to Dorris Place, and approximately 550 feet southwest on Dorris Place and 360 feet continuing under I-5 before extending into Elysian Park. In addition, the proposed action would be located within 0.5-mile of Dodger Stadium.

Figure 1 shows the regional location of the proposed action, while Figure 2 shows the proposed alignments and locations of the recycled and potable water pipelines and facilities.

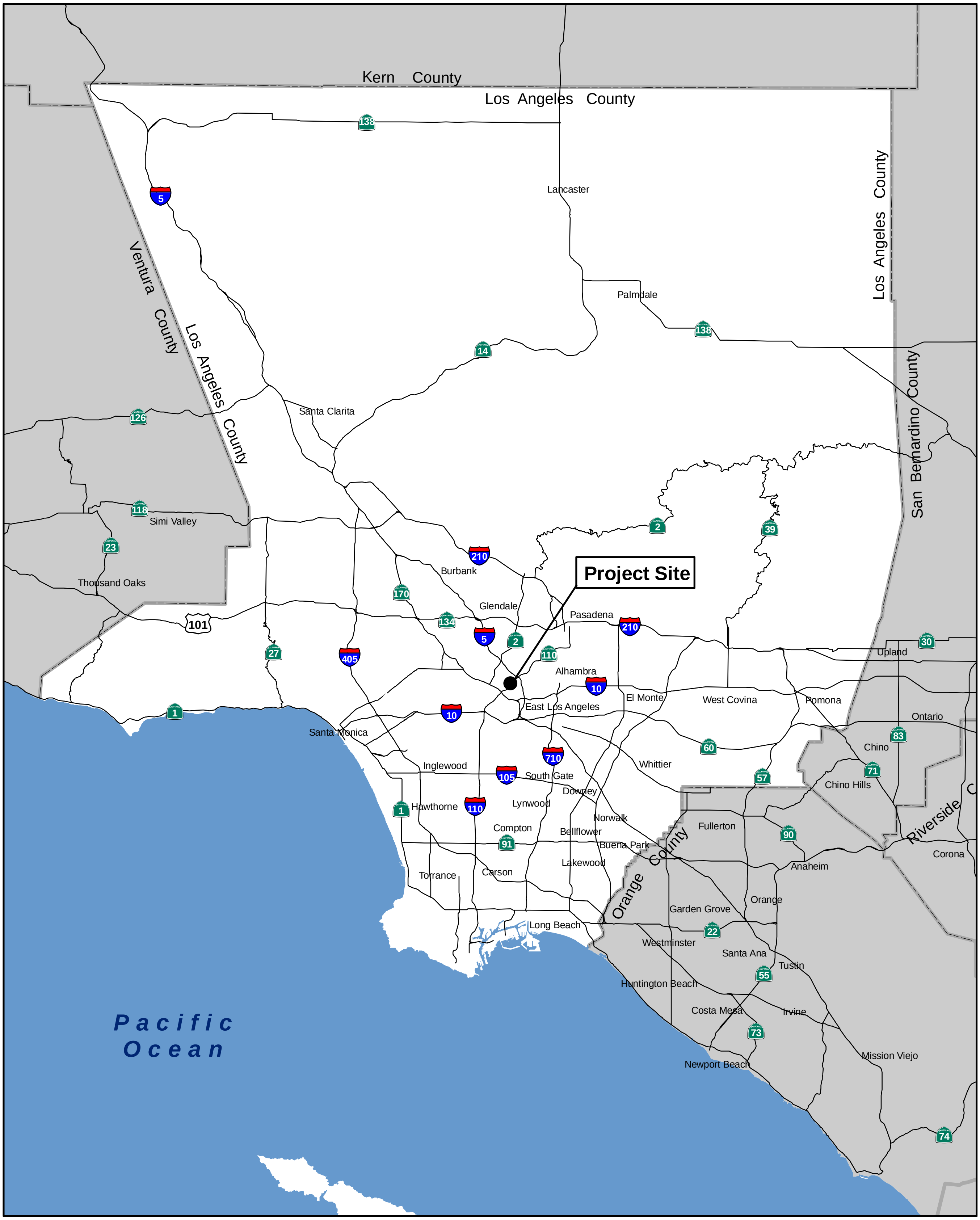
1.4 Purpose and Need for Proposed Action

With imported water supplies becoming increasingly restricted and unreliable, the LADWP 2010 Urban Water Management Plan calls for 59,000 AFY of potable supplies to be replaced by recycled water by 2035. The Elysian Park WRP is part of the effort to maximize the use of recycled water for non-potable uses. It would serve Elysian Park, located in the central region of the City, using recycled water supplied by the Los Angeles-Glendale Water Reclamation Plant.

[1] Los Angeles Department of Water and Power, *Elysian Park – Downtown Water Recycling Project Recirculated Draft IS/MND*, 2013.

1.5 Scope of Environmental Information Document

The purpose of this EID is to document and make public the potential direct, indirect, and cumulative environmental impacts that may arise from the implementation of the proposed action, Horizontal Directional Drilling (HDD) Alternative, and No Action Alternative for the proposed recycled and potable water pipelines and facilities.



Source: California Geospatial Information Library (2003-5)

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Figure 1
Regional Location Map

Figure 2
Proposed Action

SECTION 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Alternatives Evaluated

Due to the limited scope and purpose of this project, three alternatives are being considered in this EID:

1) Alternative 1, the Preferred Alternative, involves the delivery of recycled water to Elysian Park. A new, approximately 10,800 linear feet recycled water pipeline would be constructed beginning just southwest of the Los Angeles River along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The beginning of the pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River. The recycled water pipeline would connect to a proposed new approximately 2 MG recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a proposed new recycled water pumping station located on the west side of I-5 just inside Elysian Park. In addition, approximately 1,000 linear feet of 8-inch potable water pipeline is proposed to be constructed connecting from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pumping station would also be constructed from Grace E. Simons Lodge to Elysian Fields. The proposed new potable water pipeline would provide water for restrooms, drinking fountains, and other potable water needs at Elysian Fields.

2) Alternative 2, the Horizontal Directional Drilling (HDD) Alternative, would be similar to the Alternative 1, and would contain most of the same components. The proposed locations for all of the above-ground structures would remain the same as described under the Preferred Alternative. However, the installation method for the portion of the recycled water pipeline within the park would involve horizontal directional drilling through the hillside within Elysian Park between the proposed recycled water pumping station to the proposed location of the recycled water storage tank on a hilltop near Elysian Fields.

3) Under the No Action Alternative, the proposed recycled and potable water pipelines and facilities would not be built and Elysian Park would continue to use potable water for irrigation.

2.2 Alternative 1: (Preferred Alternative) Recycled and Potable Water Pipelines, Pumping Stations, and Tanks

Alternative 1 (Preferred Alternative), hereafter referred to as the “proposed action,” involves the delivery of recycled water to Elysian Park. LARAP has committed to utilizing the recycled water supply that would become available via these new facilities to irrigate Elysian Park. A new 16-inch recycled water pipeline would be constructed beginning just southwest of the Los Angeles River along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The beginning of the pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River. A total of approximately 10,800 linear feet of pipeline would be installed between the

Los Angeles River Bike Path and a new 2 MG recycled water storage tank located in Elysian Fields via a 3,000 gallon per minute (gpm) recycled water pump station located on the west side of I-5 just inside Elysian Park.

Installation of the recycled water pipeline within the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, Stadium Way, and Academy Road would use trench construction known as "cut and cover." An approximately 3-foot wide by 4.5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with imported slurry material and repaved. Recycled water pipeline installation would necessitate restrictions to on-street parking and closure of up to two lanes of the roadway depending on the location of construction. The installation of the recycled water pipeline within the Los Angeles River Bike Path would require temporary closure of this portion of the bicycle facility. Installation of the recycled water pipeline from Dorris Place across I-5 would require a trenchless form of construction called "microtunneling" so as not to affect traffic on the freeway. A tunnel of less than 1,000 linear feet would be tunneled beneath the freeway. Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excavated soil and other material would be disposed of at an appropriate regional landfill. The pits would be backfilled with imported slurry and the roadway would be returned to its original condition.

For both the proposed new recycled water pumping station and non-potable water pumping station, flat pads of approximately 65 feet long by 30 feet wide would be cleared and graded on which to place a slab foundation and the pumping stations. The pumping stations would be exposed facilities secured by chain link fencing and standing less than 5 feet in height. Clearing of vegetation in the area would be necessary prior to construction of the concrete pads. The non-potable water pumping station would be installed to provide backup supply to the proposed new recycled water system within the park.

In addition, a new 30,000 gallon potable water forebay tank would be constructed in order to serve as a forebay, or source supply, for the non-potable water pumping station. The proposed forebay tank would connect to an existing potable water pipeline, which would supply the water to fill the tank. The forebay tank is required to maintain a constant supply of water for the non-potable pumping station, and the proposed recycled water system within the park. A flat pad would be cleared and graded on which to place the approximately 24-foot diameter forebay tank. The tank would be approximately 12 feet tall. There is an existing road that would be used to access the proposed site.

From the recycled water pumping station, the recycled water pipeline would be installed along Stadium Way to Angels Point Road past the Police Academy to a hilltop adjacent to Elysian Fields. It would supply a proposed new 2 MG recycled water storage tank located in a flat area of Elysian Fields, north of Angels Point Road. A flat pad would be cleared and graded on which to place the 85-foot diameter recycled water storage tank. The tank would be a steel structure of approximately 48 feet in height. The area currently contains a 500,000 gallon water tank. The existing tank would be removed as part of the project.

To provide for the potable water needs of Elysian Park, such as for restroom facilities, a new potable water booster pump would be installed within an existing pumping station near Stadium Way and Elysian Park Drive. From the potable water booster pump, approximately 2,800 linear feet of 2-inch potable water pipeline would be trenched directly up the hillside to

Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields.

Approximately 1,000 linear feet of 8-inch potable water pipeline would be installed to connect the new 2-inch potable water pipeline serving Elysian Fields to an existing potable water service pipeline located outside of Elysian Park within Park Drive. It would follow an existing fire road from Park Drive to Grace E. Simons Lodge where it would connect to Elysian Park Drive, travel directly up the hillside to Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields. An approximately 1.5-foot wide by 4-foot deep trench would be excavated for the 8-inch potable water pipeline using the cut and cover technique. Once the 8-inch potable water pipeline has been installed within a segment, the trench would be backfilled with imported slurry material and restored to its original condition. For the 2-inch potable water pipeline, an approximately 4-inch wide by 1-foot deep trench would be excavated in the hillside. Following installation of each segment of the 2-inch potable water pipeline, the hillside would be backfilled with native soil material and returned to its existing condition.

All areas within Elysian Park temporarily cleared or disturbed during construction, including those areas used for materials and equipment staging, would be restored at the completion of the construction process. All public roads where trenching would occur, and any park roads or other roads indirectly damaged during construction, would be repaired at the end of construction.

2.3 Alternative 2: HDD Alternative

Alternative 2, the Horizontal Directional Drilling (HDD) Alternative, would be similar to Alternative 1, and would contain most of the same elements including the installation of both the recycled and potable water pipelines, the 2 MG recycled water storage tank, the recycled and non-potable water pumping stations, the 30,000 forebay tank, and the potable water booster pump. The proposed locations for all of the above-ground structures would remain the same as described under the Preferred Alternative.

Under the HDD Alternative, the installation of the recycled water pipeline from the Los Angeles River Bike Path to the recycled water pumping station just inside Elysian Park, and the potable water pipeline would be the same as described under the Alternative 1. However, the installation method for the portion of the recycled water pipeline within the park would involve horizontal directional drilling through the hillside within Elysian Park between the proposed recycled water pumping station to the proposed location of the recycled water storage tank on a hilltop near Elysian Fields. In order to construct this alignment through the hillside, instead of being trenched within and following an existing roadway, as described under Alternative 1, a tunneling technique known as horizontal directional drilling would be required. Horizontal directional drilling is a trenchless method of installing subsurface pipes. This method would entail boring an approximately 2,300-foot long tunnel under Elysian Park. The drilling site must be located in a relatively flat area of adequate dimension to accommodate construction activities and provide adequate access and egress for construction vehicles. The typical workspace required for this tunneling method includes an approximately 400 foot by 200 foot launching area, as well as a pipe lay-down area, which varies in size based on the length of pipe required. The recycled water pipeline would be installed using a surface launched, maneuverable drill to bore a pilot hole along the proposed alignment. A drilling fluid is typically used to ease drilling and prevent soil within the hole from caving. After a pilot hole is drilled to the desired design profile and the drill bit exits on the receiving site, the drill head is replaced with a back-reamer. The entire drill bit is then pulled in reverse through the hole with a back-reamer to create a hole of the desired pipe diameter. The new pipe would be attached behind the back-reamer, which is pulled into place as the drill reams.

2.4 Alternative 2: No Action Alternative

Under the No Action Alternative, no new recycled or potable water pipelines, pumping stations, or tanks would be built on the project site, and Elysian Park would continue to use potable water for irrigation. Potable water supplies would continue to be constrained, threatening the reliability of the LADWP system.

2.5 Identification of the Preferred Alternative

Alternative 1 was selected as the Preferred Alternative based on its effectiveness and limited environmental impacts with mitigation implemented. Additionally, due to construction techniques, Alternative 1 is more cost-effective and feasible than Alternative 2, HDD Alternative. Under the HDD Alternative, any necessary maintenance or repairs would require replacement or re-lining of the entire pipe. Due to the depth at which the pipe would need to be placed under the HDD Alternative, Alternative 1 allows for greater accessibility for maintenance, repairs, and customer connections. Although this EID states that Alternative 1 has a greater number of potential environmental impacts than the No Project Alternative, with proper implementation of mitigation measures, all impacts would be reduced to less than significant levels. Furthermore, as discussed above, the increased use of recycled water for non-potable uses (e.g., irrigation) would be in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Plan.

2.6 Alternatives Considered and Eliminated

An alternative for the Elysian Park WRP was initially considered that would have involved the construction of a 1 MG recycled water tank on the hilltop near Elysian Fields. The recycled and potable water pipeline alignments for this alternative would also differ from those described under the Preferred Alternative. The recycled water pipeline would have begun at the northern terminus of Dorris Place, rather than on the Los Angeles River Bike Path. Additionally, the portion of the potable water pipeline from the booster pump to Elysian Fields would have been installed within Angels Point Road on the same alignment as the recycled water pipeline, rather than running directly up the hillside before meeting Angels Point Road. To provide for the potable water uses within Elysian Park (e.g., restrooms and drinking fountains) and in the event that recycled water would not be available during peak demand periods, approximately 7,300 linear feet of 12-inch potable water pipeline was proposed to be constructed connecting from Park Drive to a 5,000 gallon potable water storage tank in Elysian Fields via a potable water pumping station located near the Grace E. Simons Lodge. Through development of this alternative, it was determined that a larger recycled water storage tank would be needed to accommodate potential future customers in the area. In addition, construction of one larger tank would avoid the need to construct a second tank at a later point in time, which would increase construction noise, air quality, traffic, and aesthetics impacts. Further, the initial recycled water pipeline alignment beginning on Dorris Place would have required an easement to obtain access to property in order for the recycled water pipeline to connect to the existing recycled water pipeline serving Taylor Yard. Finally, the initially proposed potable water pipeline following Angels Point Road would have required an additional 3,500 linear feet of pipeline to be installed as compared to the alignment described under the Preferred Alternative. This additional 3,500 linear feet of pipeline would have provided potable water backup supply for the recycled water system. The forebay tank and non-potable water pumping station described under the Preferred Alternative would provide the potable water backup supply for the recycled water system.

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SECTION 3
AFFECTED ENVIRONMENT

3.1 Air Quality

Air quality is affected by stationary sources (e.g., industrial development) and mobile sources (e.g., motor vehicles and construction equipment). Primary factors affecting pollutant dispersion are wind speed and direction, atmospheric stability, temperature, the presence or absence of inversions, and topography. The Federal Clean Air Act (CAA) governs air quality in the United States under the jurisdiction of the USEPA. USEPA is responsible for establishing the National Ambient Air Quality Standards (NAAQS) required under the CAA and subsequent amendments. NAAQS have been established for seven major air pollutants, including carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and 10 microns in diameter (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). The federal standards for these pollutants are listed in Table 3-1. The CAA also requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The proposed action is located within the South Coast Air Basin under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD prepared the Air Quality Management Plan (AQMP) for the basin based on regional growth forecasts from the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain ambient air quality standards. The USEPA has classified the South Coast Air Basin as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, PM_{10}, and Pb.

Table 3-1 National Ambient Air Quality Standards and Attainment Status for the South Coast Air Basin

Pollutant	Averaging Period	Standards	Attainment Status
Ozone (O_3)	8-hour	0.075 ppm (147 µg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	150 µg/m^3	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3	Nonattainment
	Annual Arithmetic Mean	15 µg/m^3	Nonattainment
Carbon Monoxide (CO)	1-hour	35 ppm (40 µg/m^3)	Unclassified/Attainment
	8-hour	9 ppm (10 µg/m^3)	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	1-hour	100 ppb (188 µg/m^3)	N/A
	Annual Arithmetic Mean	53 ppb (100 µg/m^3)	Unclassified/Attainment
Sulfur Dioxide (SO_2)	24-hour	0.14 ppm (365 µg/m^3)	Attainment
	Annual Arithmetic Mean	0.030 ppm (80 µg/m^3)	Attainment
Lead (Pb)	Calendar Quarter	0.15 µg/m^3	Nonattainment

ppm: parts per million
ppb: parts per billion
µg/m^3: micrograms per cubic meter
N/A: not applicable
Source: California Air Resources Board, *Ambient Air Quality Standards*, June 7, 2012.

In 1993, the USEPA promulgated the General Conformity Rule (40 CFR, Sections 51 and 93). Any federally supported or funded projects are required to perform a General Conformity analysis to determine that the action conforms to the applicable State Implementation Plan. Federal agencies must demonstrate that the funded activities shall not result in any of the following:

- Cause or contribute to any new air quality standard violation;
- Increase the frequency of severity of any existing standard violation; and/or
- Delay the timely attainment of any standards, interim emission reduction, or other milestone.

Actions can be exempted from a conformity determination when the total direct and indirect emissions related to both construction and operation activities is below the specified emission rate thresholds, known as *de minimis* levels, and that the emissions would be less than 10 percent of the area emissions budget. Table 3-2 shows the *de minimis* levels for criteria pollutants relevant to the project area.

Table 3-2 Federal De Minimis Levels

Pollutants	Area Type	De Minimis Levels (tons per year)
Ozone (VOC or NO_x)	Extreme Nonattainment	10
Carbon Monoxide (CO), Sulfur Dioxide (SO_2), and Nitrogen Dioxide (NO_2)	All Nonattainment and Maintenance	100
Respirable Particulate Matter (PM_{10})	Serious Nonattainment	70

VOC: volatile organic compounds
NO_x: oxides of nitrogen
Source: USEPA, *General Conformity De Minimis Levels*, July 22, 2011.

Global Climate Change

Greenhouse gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), keep the average surface temperature of the Earth close to 60 degrees Fahrenheit. Of all the GHGs, CO_2 is the most abundant gas that contributes to climate change through fossil fuel combustion. The other GHGs are less abundant, but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e.

In response to growing scientific and political concern with global climate change, California adopted a series of laws to reduce emissions of greenhouse gases (GHGs) into the atmosphere. Executive Order (EO) S-3-05 establishes state GHG emission targets of 1990 levels by 2020 and 80 percent below 1990 levels by 2050. Additionally, the Climate Action Team created under EO S-3-05 is responsible for preparing reports that summarize the state's progress in reducing GHG emissions.

The California Global Warming Solutions Act of 2006 requires the California Air Resources Board to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020, similar to the targets established under EO S-3-05. Under the act, the California Air Resources Board is responsible for monitoring and regulating sources of GHG emissions in order to reduce those emissions.

3.2 Noise

Noise is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Noise levels are expressed in terms of Equivalent Noise Level (L_{eq}), which is the average noise level on an energy basis for any specific time period (e.g., the L_{eq} for one hour is the energy average noise level during the hour).

The existing noise environment associated with the proposed action is characterized by recreational, educational, and residential land uses. Elysian Park is typically free of traffic congestion and standard urban noises. As shown in Table 3-3, the noise level in Elysian Park was identified as 45 dBA L_{eq}. The ambient noise level at Dorris Place Elementary School is typical of a dense urban area (e.g., sirens, horns, helicopters, etc.) and was identified as 61.2 dBA L_{eq}.

Table 3-3 Existing Noise Levels

Noise Monitoring Location	Noise Level (dBA, L_{eq})
Dorris Place Elementary School	61.2
Single-Family Residences along Park Drive	46.0
Elysian Park	45.0

Source: Terry A. Hayes Associates, 2012.

The City of Los Angeles regulates noise through several sections of its municipal code. These include Section 41.40, which establishes time prohibitions on noise due to construction activity; Section 112.04, which prohibits the use of loud machinery and/or equipment within 500 feet of residences; and Section 112.05, which establishes maximum noise levels for powered equipment and powered hand tools. According to Section 41.40, no construction activity that might create loud noises in or near residential areas or buildings shall be conducted before 7:00 a.m. or after 9:00 p.m. on weekdays, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday or City holidays.

3.3 Odor

Land uses surrounding the project area include park/open space uses, single- and multi-family residences, and public facilities, including a school. These land uses do not generally produce objectionable odors.

3.4 Water Resources

The project site is located within the Los Angeles River Watershed, which encompasses approximately 834 square miles, including the eastern portions of the Santa Monica Mountains and Simi Hills in the west, and the Santa Susana Mountains to the San Gabriel Mountains in the east. This watershed is shaped by the path of the Los Angeles River, which flows from its headwaters in the mountains, eastward to the northeastern corner of Griffith Park where the channel turns southward through the Glendale Narrows before it flows across the coastal plain and into San Pedro Bay in the City of Long Beach. The northern 360 square miles of the watershed are covered by forest, chaparral habitat, or undeveloped open space, while the remaining 474 square miles are developed with commercial, industrial, and residential uses and other urban development.[2]

The Los Angeles River once flowed freely over the coastal plain but was channelized by the U.S. Army Corps of Engineers (USACE) for flood control purposes from the 1930s to the 1960s. Currently 47.9 miles of the total 51-mile length of the river is lined with concrete. The Los Angeles River Watershed includes 22 lakes and a number of spreading grounds within its boundaries. Major tributaries of the Los Angeles River include the Pacoima Wash, Tujunga Wash, Burbank Western Channel, and Verdugo Wash in the San Fernando Valley, and the Arroyo Seco, the Rio Hondo, and Compton Creek south of the Glendale Narrows.

3.5 Wetlands

USACE and USEPA define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Jurisdictional wetlands are those subject to regulatory authority under Section 404 of the Clean Water Act. EO 11990, *Protection of Wetlands*, requires analysis of potential impacts to wetlands related to proposed federal actions.

The Los Angeles River is located adjacent to and north of the proposed recycled water pipeline alignment on the Los Angeles River Bike Path. However, the proposed action does not include any crossings over jurisdictional waters.

3.6 Floodplains

Floodplains are belts of low, level ground present on one or both sides of a stream channel and are subject to either periodic or infrequent inundation by floodwater. Inundation dangers associated with floodplains have prompted legislation that largely limits development in these areas. Specifically, EO 11988, *Floodplains Management*, requires actions to minimize flood risks and impacts. The proposed action and project alternative would not be located within a 100-year floodplain as mapped by the Federal Emergency Management Agency.[3]

3.7 Public Health and Safety

Government Code Section 65962.5 requires various state agencies to compile lists of hazardous waste disposal facilities, unauthorized releases from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste, and submit such information to the Secretary for Environmental Protection on at least an annual basis.

The California Department of Toxic Substances Control (DTSC) Envirostor and the California State Water Resources Control Board GeoTracker databases were evaluated to determine whether hazardous materials are or have been present on the project site. These

2 Los Angeles County Department of Public Works, Watershed Management, Los Angeles River Watershed, Website: http://dpw.lacounty.gov/wmd/watershed/LA/, accessed June 15, 2012.

3 Federal Emergency Management Agency, Flood Insurance Rate Maps, Search by Street Address. Website: http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1, accessed June 17, 2013.

databases are comprehensive and cover the types of facilities and sites required for listing under Government Code Section 65965.5. The Envirostor database includes the following site types: those listed on the National Priorities List (Federal Superfund sites); State Superfund and Military Facilities; Voluntary Cleanup; and School sites. The GeoTracker database includes geographic information and data on underground fuel tanks, fuel pipelines, and public drinking water supplies, and contains information regarding leaking underground fuel tanks. This database also includes information and data on non-leaking underground fuel tank cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, U.S. Department of Defense Sites, and Land Disposal programs.

The GeoTracker database identifies one closed Leaking Underground Storage Tank site on Dorris Place north of the proposed recycled water pipeline alignment for which cleanup has been completed.[4] No active sites were identified in either the GeoTracker or Envirostor databases on or near the project site.[5,6]

3.8 Surface Resources

Geological resources typically consist of surface and subsurface materials and their inherent properties. Principal geologic factors affecting the ability to support structural development are seismic properties (i.e., potential for subsurface shifting, faulting, or crustal disturbance), soil stability, and topography.

Soils

The project site is primarily underlain by alluvial fans consisting of sand, silt, and gravel.[7] Portions of the project site are located within an area identified as being susceptible to liquefaction.[8] The proposed pipelines would primarily be installed within existing roadways, which consist of compacted soils that are covered with pavement and other road construction materials. Portions of the proposed pipeline alignments would also be installed within an existing paved bicycle path, compacted dirt hiking trails, and disturbed hillside areas.

Topography

Topography on the project site includes flat areas and some steep slopes. Elysian Park contains the Elysian Hills. Consequently, the proposed action would be located within a hillside area as designated by the City of Los Angeles.[9] Some of these hillside areas have been identified as being susceptible to earthquake induced landslides.[10] Elevation of the project site ranges from approximately 350 to 800 feet above mean sea level.

4 California State Water Resources Control Board, GeoTracker database, search by street address. Website: http://geotracker.waterboards.ca.gov/, accessed July 9, 2013.
5 Ibid.
6 California Department of Toxic Substances Control, EnviroStor database, search by street address. Website: http://www.envirostor.dtsc.ca.gov/public/, accessed July 9, 2013.
7 California Department of Conservation, *Seismic Hazard Zone Report for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California*, 1998.
8 California Department of Conservation, *Seismic Hazard Zones Map for the Los Angeles 7.5-Minute Quadrangle,* March 25, 1999.
9 City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Landslide Inventory & Hillside Areas* Map, September 1996.
10 California Department of Conservation, *Seismic Hazard Zones Map for the Los Angeles 7.5-Minute Quadrangle,* March 25, 1999.

Seismic Activity

The project site is located within the seismically active southern California region, and is subject to events along active and potentially active regional faults. The nearest fault is the Elysian Park Fault located on the northeastern edge of the park adjacent to I-5.[11] A portion of the proposed recycled water pipeline alignment would cross over this fault. However, according to the California Geological Survey, the project area is not located within an Alquist-Priolo Earthquake Fault Zone.[12]

3.9 Vegetation and Wildlife

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Sensitive plant and wildlife species are subject to regulations under the authority of the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW). The vegetation and wildlife information in this document is based on the *2012 and 2013 Biological Reconnaissance Survey and Constraints Analysis for the Elysian Park Water Recycling Project*, which is included as Appendix A of this EID. Based on the literature review, 18 sensitive plant species and 11 wildlife species were identified as having the potential to occur in the vicinity of the proposed action. Additionally, field surveys were conducted on May 10, 2012 and April 25, 2013 to evaluate the potential for habitat suitable for the sensitive species identified in the literature review, as well as for protected trees and potential nesting habitat for migratory birds.

Vegetation

Sensitive Plants

Native species adjacent to the proposed recycled water and potable water pipeline routes observed during the field survey include: laurel sumac (*Malosma laurina*), western sycamore (*Plantanus racemosa*), blue elderberry (*Sambucus Mexicana*), native coast live oak (*Quercus agrifolia*), wild cucumber (*Marah* sp.), holly-leafed cherry (*Prunus ilicifolia*), lemonade berry (*Rhus integrifolia*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), southern California black walnut (*Juglans californica*), black walnut (*Juglans nigra*), California sagebrush (*Artemisia californica*), Botta's Clarkia (*Clarkia bottae*), mulefat (*Baccharis salicifolia*), western ragweed (*Ambrosia psilostachya*), chaparral whitethorn (*Ceanothus leucodermis*), and pine trees (*Pinus* sp.).

The vegetation surrounding the proposed recycled water pumping station, which would be located immediately southwest of I-5 across from Dorris Place, is heavily disturbed and dominated by non-native species.

Native species observed in the hilltop area where the potable and recycled water storage tanks would be located include: blue elderberry, toyon, southern California black walnut, chaparral whitethorn, laurel sumac, and poison oak.

[11] City of Los Angeles Department of City Planning, Zoning Information and Map Access System (ZIMAS). Website: http://zimas.lacity.org/, accessed June 15, 2012.

[12] State of California Department of Conservation, California Geological Survey, Alquist-Priolo Earthquake Fault Zone Maps. Website http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, accessed June 15, 2012.

Sensitive Plant Communities

The following three sensitive plant communities were identified as having potential to occur in the vicinity of the project site: California Walnut Woodland, Southern Sycamore Adler Riparian Woodland, and Walnut Forest. However, none of these plant communities were observed or are reported to have occurred in Elysian Park.

Wildlife

Sensitive Wildlife Species

Urban park settings provide habitat for common wildlife species typically adapted to disturbed areas and human presence. Native and disturbed habitat and ornamental vegetation found adjacent to the proposed route for the recycled water pipeline and potable water pipeline, and within the proposed locations for the potable water pumping station, recycled water pumping station, and new potable and recycled water tanks provides habitat for a variety of nesting birds and potentially suitable habitat for certain species of roosting bats.

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

During the field survey, twelve species of bird were observed on site and are typically associated with such urban park settings. These species include black phoebe (*Sayornis nigricans*), kingbird (*Tyrannus* sp.), phainopepla (*Phainopepla* nitens), common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculates*), California towhee (*Pipilo crissalis*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), western-scrub jay (*Aphelocoma californica*). Additionally, a red-tailed hawk (*Buteo jamaicensis*) was detected in the project vicinity.

Wildlife Corridors and Habitat Linkages

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two comparatively undisturbed habitat fragments, or between a habitat fragment and some vital resources, thereby encouraging population growth and diversity. A viable wildlife migration corridor consists of more than a path between fragmented habitats. A wildlife migration corridor must also include adequate vegetative cover and food sources for transient species as well as resident populations of less mobile animals to survive. They must be extensive enough to allow for large animals to pass relatively undetected, be free of obstacles, and lack any other distraction that may hinder wildlife passage such as lights or noise.

Several noncontiguous open spaces contain suitable habitat for a variety of wildlife near Elysian Park, including: Mt. Washington (1 mile northeast), Arroyo Seco Park (2 miles northeast), Topanga State Park (16 miles west), Angeles National Forest (10 miles north), Griffith Park (5 miles northwest), and Echo Park (less than 1 mile west). Elysian Park is not part of a major contiguous linkage between two or more large areas of open space because it is separated from most of these areas by freeways and large roadways. However, Elysian Park contains suitable acreage for local terrestrial wildlife migration within the park and to nearby areas.

Essential Fish Habitat

The coastal waters of Southern California are designated as Essential Fish Habitat. The nearest coastal waters are located approximately 14 miles southeast of the project site. As such, due to the urban setting of the project site, no Essential Fish Habitat exists within the project boundaries.

3.10 Threatened and Endangered Species

Special-status plant and wildlife species are subject to regulations under the authority of the USFWS and CDFW. Several plant and wildlife species have been found in Los Angeles County and throughout California that are federally or state-listed as threatened, endangered, candidate for protection, or species of concern. Federal lists of species officially listed or proposed as threatened or endangered are subject to permit restrictions regulated under Sections 7 and10(a) of the Endangered Species Act.

No special-status plant species were observed during field surveys. The project site and surrounding areas are developed or heavily disturbed or consist of non-native habitat, and do not present quality habitat for special-status plant species. Based on the literature review, one special-status plant species is reported to have occurred in Elysian Park, Greata's aster (*Symphyotrichum greatae*), a California Native Plant Species List 1B.3 species. The source of the reported occurrence is a collection from 1932, mapped as a best guess to be in the Elysian Park area.

Based on the literature review, no special-status wildlife species are known to occur within Elysian Park. Based on the field survey, native and disturbed habitat and ornamental vegetation found adjacent to the proposed route for the recycled water pipeline and potable water pipeline, and within the proposed locations for the recycled and non-potable water pumping stations and forebay tank, and new recycled water tank provide potentially suitable roosting habitat for hoary bats (*Lasiurus cinereus*), a CDFW listed Species of Concern. The only known occurrences of this species in the vicinity of the project site are from 1942, 1977, and 1992, approximately 1.5 miles south, 2 miles northwest, and 3 miles northwest of the project site, respectively. Known occurrences of this species have not been recorded on the project site.

3.11 Cultural Resources and Historic Property

Cultural resources represent and document activities, accomplishments, and traditions of previous civilizations, and link current and former inhabitants of an area. The cultural resources and historic property information in this document is based on the *Cultural Resources Assessment, Elysian Water Recycling Project, City of Los Angeles, California*, which is included as Appendix B to this EID. The area of potential effect (APE) for the proposed action includes the area encompassing the location of the recycled water pipeline alignment within Elysian Park and extending north of I-5 in the Elysian Valley neighborhood, and the proposed locations of the potable water pipeline alignment, and the non-potable and recycled water pumping stations and forebay and recycled water storage tanks within Elysian Park.

Archival research was conducted on April 18, 19, 25, and 26 of 2012 at the South Central Coastal Information Center housed at California State University of Fullerton. The records search revealed that 6 cultural resources investigations were previously conducted within the 0.5-mile radius of the project site. The California Office of Historic Preservation's Historic Resources Inventory does not list any historic resources within the APE or the 0.25-mile study area. However, two resources were listed outside of the study area but within or adjacent to Elysian Park. These resources have been evaluated as possibly having local, state, or national significance. A review of California Historical Landmarks (CHL) identified no historic landmarks within 0.25 mile of the project site. However, two historic resources are listed on the register within or adjacent to Elysian Park, neither of which overlaps with the APE or occurs within the study area. No archaeological resources were previously recorded within the survey area; however, A search of the Los Angeles Historic-Cultural Monuments (LAHCM) register identified two historic monuments recorded within 0.25 mile of the APE (LAHCM No. 48 and LAHCM No. 110), both of which are located within Elysian Park. A third historic monument was listed outside of the study area but adjacent to Elysian Park. LACHM No. 48 is the Chavez Ravine Arboretum, which was inducted into the LAHCM register in 1967. Additional archival research was conducted at a number of archival repositories and local agency archives, including the Los Angeles Public Library, City of Los Angeles Bureau of Engineering Vault, and plans, photos, and historical narratives provided by LADWP. Documents searched included book publications, historic newspaper articles, historic photographs, and historic maps.

Additionally, a letter requesting a Sacred Lands File check was conducted by the Native American Heritage Commission (NAHC). The response from the NAHC did not indicate the presence of Native American cultural resources in the project APE. A full contact program of interested parties, following Section 106 of the National Historic Preservation Act of 1966, was conducted.

A cultural resources field survey was conducted on May 8, 2012. Areas surveyed were those determined to be potentially affected by the proposed action. Elysian Park itself was determined to be a resource and was recorded during the survey; however, no archaeological resources were observed or recorded during the survey. Additionally, Elysian Park was evaluated for its eligibility to the National Register of Historic Places, the California Register of Historical Resources, and for listing as a Los Angeles Historic-Cultural Monument.

3.12 Land Use and Infrastructure

Land use is regulated by management plans, policies, regulations, and ordinances that determine the type and extent of land use allowable in specific areas and protect specially designated or environmentally sensitive areas.

The proposed action would be located within the City of Los Angeles. The proposed recycled water pipeline would begin on the Los Angeles River Bike Path on the west side of the Los Angeles River, down Riverdale Avenue to Blake Avenue, along Blake Avenue to

Dorris Place, and down Dorris Place continuing into Elysian Park. Land uses along the Los Angeles River Bike Path are designated as Open Space; the areas surrounding Riverdale Avenue and Blake Avenue are designated as Low Density Residential, and land uses on the northwest side of Dorris Place are designated as Public Facilities in the City of Los Angeles General Plan, while uses on the southeast side are designated as Low Density Residential. Elysian Park is designated as Open Space in the General Plan. The Open Space designation is intended for, among other uses, rights-of-way for utilities.[13] The proposed action would not be located within important farmland or within a coastal zone as delineated under the Farmland Protection Policy Act and Coastal Zone Management Act, respectively.[14,15] Additionally, the proposed action would not be located within a coastal barrier resource as described under the Coastal Barrier Resources Act.[16]

3.13 Aesthetics

Aesthetic resources are defined as the natural and manufactured features that make up the visual qualities of an area. The project area along the Los Angeles River Bike Path is characterized by open space uses. The project area along Riverdale Avenue and Blake Avenue is characterized by single- and multi-family residences. The project area along Dorris Place is characterized by single- and multi-family residences and an elementary school. Elysian Park is characterized by public open space uses, including passive and active recreational facilities. There are no state-designated scenic highways in the vicinity of the project site.[17] Further, the project site would not be located within a wild or scenic river subject to the Wild and Scenic Rivers Act.

3.14 Socioeconomics

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly population and economic activity. Human population is affected by regional birth and death rates, as well as net in- or out-migration. The County of Los Angeles had a population of approximately 9,818,605 in 2010, which represents a 3.1 percent increase over the County's population in 2000.[18] Economic activity typically comprises employment, personal income, and industrial growth. As of 2012, the total labor force of Los Angeles County was approximately 4,879,674 persons, with an unemployment rate of approximately 10.9 percent, or 533,951 persons.[19]

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13 City of Los Angeles Department of City Planning, *Silver Lake – Echo Park – Elysian Valley Community Plan, Chapter III Land Use Policies and Programs, Public and Institutional Land Use, Recreational and Park Facilities, Open Space*, Adopted August 2004.

14 State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping & Monitoring Program, *Important Farmland in California, 2008* map. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2008/fmmp2008_08_11.pdf, accessed May 14, 2012.

15 City of Los Angeles Zoning Information and Map Access System (ZIMAS). Website: http://zimas.lacity.org/, accessed May 11, 2012.

16 U.S. Fish and Wildlife Service, Coastal Barrier Resources Act. Website: http://www.fws.gov/CBRA/Act/index.html, accessed November 26, 2012.

17 State of California Department of Transportation. *State Scenic Highway Program*. Website http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm, accessed June 5, 2012.

18 Southern California Association of Governments, Census Data, *City Population 2000 and 20112*. Website: http://www.scag.ca.gov/census/index.htm, accessed June 19, 2012.

19 United States Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, *Labor Force Data by County, 2012 Annual Averages*. Website: http://www.bls.gov/lau/laucnty12.txt, accessed July 9, 2013.

3.15 Waste Management

Waste management refers primarily to solid and hazardous wastes. Within the City of Los Angeles, various public agencies and private companies administer solid waste management, including collection and disposal services and landfill operation. Refuse from single-family residential and limited multi-family residential uses on public streets is collected by the Los Angeles Bureau of Sanitation and disposed of at City operated landfills. Private contractors collect waste generated by the majority of multi-family residential sources and all commercial and industrial sources. Private contractors can dispose of waste at a City operated landfill or a landfill of their choosing. The landfills that serve the City include the Sunshine Canyon Landfill, located in the Sylmar Community, and the Chiquita Canyon Landfill, located in Castaic. Both landfills accept residential, commercial, and construction waste.

Hazardous waste is a material with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous wastes can include liquids, solids, contained gases, or sludges. The proposed action involves the installation of recycled and potable water pipeline, pumping stations, and tanks to serve Elysian Park. The project site does not currently generate solid or hazardous waste. The potential for hazardous materials contamination on and in the vicinity of the project site is discussed in Section 3.7, Public Health and Safety, above.

3.16 Transportation

Regional access to the project site is provided via I-5 on the north side of the park and SR 110 to the south. Local access to Elysian Park is provided via Stadium Way, Academy Road, and Solano Avenue. Installation of the recycled and potable water pipelines would occur primarily within the existing road rights-of-way of Riverdale Avenue, Blake Avenue, Dorris Place, Stadium Way, Elysian Park Drive, Angels Point Road, and Park Road. Traffic on local roadways in the project area is characteristic of a low density residential neighborhood. Elysian Park is typically free of traffic congestion.

3.17 Energy

In order to comply with EO 13514, the United States government must assess projects with the goal of reducing greenhouse gas emissions by reducing energy consumption through strategic sustainable development and energy-efficient building design and material selection. LADWP provides electricity service to the City. The proposed recycled and potable water pipelines would be located primarily within existing roadways and would not require energy usage; however, the proposed pumping stations would require the use of energy during operation.

3.18 Environmental Justice and Protection of Children

Environmental Justice

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, was issued to focus attention of federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed. Based on 2010 Census data, as shown in Table

3-4 below, approximately 50 percent of the total population in Los Angeles County identify themselves as being of a minority background, and approximately 48 percent identify themselves as Hispanic/Latino. By comparison, approximately 47 percent of the total population of the state is identified as being of a minority background, and 38 percent identify themselves as Hispanic/Latino.

Table 3-4 Minority Population Statistics for Los Angeles County and the State of California

	Los Angeles County		State of California	
	Number of Individuals	**Percent of Total Population**	**Number of Individuals**	**Percent of Total Population**
Total Population	9,818,605	N/A	37,253,956	N/A
Minority Population	4,882,006	49.7%	16,273,414	43.7%
Hispanic/Latino (of any race)	4,687,889	47.7%	14,013,719	37.6%
Asian	1,346,865	13.7%	5,556,592	14.9%
Black or African American	856,874	8.7%	2,683,914	7.2%
American Indian or Alaska Native	72,828	0.74%	723,225	1.9%
Native Hawaiian and other Pacific Islander	26,094	0.27%	286,145	0.8%
Other/Multi-Racial	2,579,345	26.3%	7,023,538	18.9%
Non-Minority Population	4,936,599	50.3%	21,453,934	57.6%

Note: Statistics based on 2010 Census data. The sum of all categories may equal more than the total population because people who reported more than one race are tallied in each race category.

Source: U.S. Census Bureau, American FactFinder, search by geography and race. Website: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t, accessed June 20, 2012.

Additionally, 17.5 percent of individuals in Los Angeles County are living below the poverty level, as compared to 15.8 percent for the State of California.[20]

Protection of Children

Children may be disproportionately subject to environmental health risks and safety risks. As such, EO 13045, *Protection of Children from Environmental Health and Safety Risks*, was introduced in 1997 to prioritize the identification and assessment of environmental health and safety risks that my affect children, and ensure that federal agencies' policies, programs, activities, and standards address environmental health and safety risks to children. Based on Census 2010 data, approximately 24.5 percent (2,402,208 persons) of the total population in Los Angeles County is under the age of 18, which is similar to the State of California population of 25 percent (9,295,040 persons).[21]

[20] U.S. Census Bureau, American FactFinder, search by geography and economic characteristics. Website: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t, accessed June 20, 2012.

[21] U.S. Census Bureau, American FactFinder, search by geography and age. Website: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t, accessed June 20, 2012.

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

4.1 Air Quality

Proposed Action

The level of significance of air quality impacts is based on the degree to which the proposed action is consistent with SCAG's growth forecasts. If a proposed action is consistent with growth forecasts, its resulting impacts were anticipated in the AQMP and are considered to be less than significant. Growth forecasts are based on approved General Plans and Community Plans. The proposed action would not alter or introduce new conflict with land use designations. The proposed action does not include construction or operation of any residential or commercial land uses, and therefore, would not result in a direct population increase from construction of new homes or businesses. The proposed action would not have an operational component. As such, operational activities following completion of construction of the project would be the same as current levels.

As discussed in Section 3.1 above, the proposed action would be located within a nonattainment area for O_3, PM_{10}, $PM_{2.5}$, and lead, and maintenance area for CO. Sulfur dioxide and lead are not assessed in this analysis because USEPA has designated the South Coast Air Basin as an attainment area for sulfur dioxide and the proposed project would not generate lead emissions. The *de minimis* level is used to determine O_3, PM_{10}, and CO impacts. Volatile Organic Compounds (VOC) and NO_x are precursors of O_3; thus, VOC and NO_x emissions are used to determine O_3 impacts. Table 4-1 shows the annual construction emissions and the applicable *de minimis* thresholds for VOC, NO_x, CO, and PM_{10}. As shown, emissions for these pollutants would not exceed the *de minimis* threshold. Therefore, the proposed action would be consistent with general air quality conformity rules and regulations, and would not result in adverse air quality impacts.

Table 4-1 Annual Construction Emissions for General Conformity – Proposed Action

	Tons Per Year			
Construction Year	**VOC**	**NO_X**	**CO**	**PM_{10}**
Year 2014	0.0	0.2	0.3	0.0
Year 2015	0.5	3.5	5.2	0.2
Year 2016	0.4	2.3	5.7	0.2
Year 2017	0.5	3.0	7.2	0.3
Year 2018	0.1	0.3	1.0	0.0
Maximum Annual Construction Total	0.5	3.5	7.2	0.3
De Minimis Threshold	*10*	*10*	*100*	*70*
Exceed Threshold?	No	No	No	No

Source: Terry A. Hayes Associates, 2013.

Global Climate Change

The SCAQMD has not approved a GHG significance threshold for the development of non-SCAQMD and non-industrial projects. Consequently, the significance threshold of 10,000 metric tons of CO_2e, based on methodologies recommended by the California Air Pollution Control Officers Association, is used as a quantitative benchmark for significance.

GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips during project construction (see Appendix C). As shown in Table 4-2, maximum GHG emissions during construction would total 4,269 metric tons. Amortized over a 30-year period, the proposed action's contribution of GHGs would be 142 metric tons. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold; therefore, the impact would be less than significant.

Table 4-2 Annual Greenhouse Gas Emissions – Proposed Action

Year	**Carbon Dioxide Equivalent (Metric Tons per Year)**
Year 2014	23
Year 2015	1,129
Year 2016	1,241
Year 2017	1,631
Year 2018	245
Total Emissions	*4,269*
Total Amortized Emissions[a]	*142*
Significance Threshold	*10,000*
Exceed Threshold?	No

[a] SCAQMD recommends annualizing construction emissions over 30 years in the GHG analysis.

Source: Terry A. Hayes Associates, 2013.

The proposed action would have no operational component. As such, operational activities would be the same as the current levels. Therefore, no adverse impact to greenhouse gas emissions would occur during operations of the project.

HDD Alternative

Table 4-3 shows the annual construction emissions under the HDD Alternative and the applicable *de minimis* thresholds for VOC, NO_X, CO, and PM_{10}. Emissions for VOC, NO_X, CO, and PM_{10} would not exceed the *de minimis* threshold. Therefore, the HDD Alternative would be consistent with the general air quality conformity rules and regulations, and would not result in adverse air quality impacts.

Table 4-3 Annual Construction Emissions for General Conformity –HDD Alternative

	Tons Per Year			
Construction Year	**VOC**	**NO_X**	**CO**	**PM_{10}**
Year 2016	0.05	0.4	0.26	0.03
Year 2017	0.06	0.48	0.34	0.02
Year 2018	0.03	0.23	0.18	0.01
Maximum Annual Construction Total	0.06	0.48	0.34	0.03
De Minimis Threshold	*10*	*10*	*100*	*70*
Exceed Threshold?	No	No	No	No

Source: Terry A. Hayes Associates, 2013.

Global Climate Change

Table 4-4 shows that total GHG emissions for the HDD Alternative would be approximately 3,662 metric tons of CO_2e per year. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative threshold; therefore, the impact would be less than significant.

Table 4-4 Annual Greenhouse Gas Emissions – HDD Alternative

Year	**Carbon Dioxide Equivalent (Metric Tons per Year)**
Year 2014	23
Year 2015	1,247
Year 2016	1,695
Year 2017	697
Total Emissions	*3,662*
Total Amortized Emissions[a]	*122*
Significance Threshold	*10,000*
Exceed Threshold?	No

[b] SCAQMD recommends annualizing construction emissions over 30 years in the GHG analysis.
Source: Terry A. Hayes Associates, 2013.

The HDD Alternative would have no operational component. As such, operational activities would be the same as the current levels. Therefore, no adverse impact to greenhouse gas emissions would occur during operations of the project.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and no changes to the existing air quality environment would occur. Therefore, no direct or indirect short-term or long-term adverse impacts to air quality, including greenhouse gas emissions, would occur, and conditions would remain the same as described in Section 3.1 above.

4.2 Noise

Proposed Action

Determination of significance of noise impacts is evaluated based on potential changes in existing conditions that could result from implementation of the proposed action. The proposed action construction activities would generally occur on weekdays from 7:00 a.m. and approximately 3:30 p.m., although work may continue beyond this time on occasion to complete a component of work that cannot be interrupted. Although not anticipated, if occasional Saturday work were required, it would not commence before 8:00 a.m., and it would cease by 6:00 p.m. No construction work would occur on Sundays or City holidays. According to Los Angeles Municipal Code Section 112.05, powered equipment and hand tools may not produce a maximum noise level exceeding 75 A-weighted decibels (dBA) at a distance of 50 feet. However, this noise limitation does not apply where compliance is technically infeasible, including with the use of such equipment as mufflers or other noise reduction devices during the operation of equipment. All equipment and tools would comply with the established noise limits.

The 575-acre Elysian Park is not considered to be especially sensitive to increased noise levels as construction activity would only affect a small percentage of park space. Elysian fields is not considered sensitive to noise as it is an active recreation area that is considered to be a noise source rather than sensitive to short-term increases in noise levels. In addition, the Los Angeles Police Academy is not considered sensitive to noise because of active outdoor recreation areas and a shooting range.

Grace E. Simons Lodge is an events center that hosts wedding receptions, outdoor ceremonies, business meetings, and birthday parties. Construction activity near the Lodge would include installation of potable water pipeline along an existing fire road. An approximately 2.5-foot wide by 5-foot deep trench would be excavated for the potable water pipeline using the cut and cover technique. The Grace E. Simons Lodge is purposefully located within the natural environment of Elysian Park to produce a serene setting for events. It is essential to the successful operation of the Lodge that event activities are not disturbed by construction noise. For this reason, any construction-related increase in ambient noise levels during an event is considered a short-term adverse noise impact. Mitigation measure N-1 would be implemented to ensure that no construction activity would occur along the fire road adjacent to the Lodge during noise-sensitive events. With implementation of mitigation measure N-1, impacts related to increase noise levels during construction at the Grace E. Simons Lodge would not be considered adverse.

N-1 LADWP shall coordinate with the site administrator for Grace E. Simons Lodge to discuss the construction schedule. Construction activity adjacent to the Lodge shall be prohibited during noise sensitive events (e.g., weddings).

Residences along Park Drive would be separated from the majority of construction activity by hilly terrain within Elysian Park. Construction activity would generally not be audible at these residences. However, construction activity related to connecting the new potable water pipeline to the existing supply would occur in close proximity to residences. This activity would not require nighttime construction, but it would raise the existing daytime ambient noise level, which was identified as 46 dBA L_{eq}. Construction equipment could generate noise levels up to 95 dBA at 50 feet, or multiple loud pieces of equipment operating simultaneously could combine to generate a noise level that exceeds 100 dBA at 50 feet. However, the City of Los Angeles states that construction activity involving multiple pieces of equipment typically generate a noise level of 89 dBA at 50 feet.

Construction equipment noise levels would exceed the 75 dBA at 50 feet Los Angeles Municipal Code Section 112.05 noise limitation. Mitigation measures N-1 through N-11 are feasible measures to control noise level, including the use of engine mufflers and noise blanket barriers. The City of Los Angeles states that mufflers typically reduce aggregate equipment noise levels by 3 dBA. Equipment noise would be at least 86 dBA at 50 feet after engine muffling (mitigation measure N-1). As a result, additional mitigation measures are required to control construction noise levels at sensitive land uses. These barriers can be effective at reducing noise levels at affected land uses but they cannot feasibly be implemented at the noise source for this project. Each construction area and trench would be an active construction site requiring constant movement of trucks and equipment accessing a relatively small area. A barrier surrounding the construction area would prevent necessary access to the project site and could reduce the visibility of truck drivers creating a safety hazard. Where noise levels exceed the noise standards specified in Los Angeles Municipal Code Section 112.05, mitigation measures N-2 through N-11 would be implemented to reduce the construction noise levels to the greatest extent feasible. With implementation of mitigation, the short-term construction noise impact would not be adverse.

Noise sensitive land uses on the east side of I-5 include Dorris Place Elementary School and single-family residences along Dorris Place, Riverdale Avenue, and Blake Avenue, and Dorris Place Elementary School. Noise- generating construction activities would be audible at the adjacent residences along Dorris Place, Riverdale and Blake Avenues. Noise from construction equipment would be typical of urban areas and temporary. Based on the construction plan, the majority of construction activities would occur during the daytime hours to minimize exposing the public to construction activities nuisances. Nonetheless, mitigation measures N-2 through N-11 would be implemented to reduce construction noise levels. With implementation of these feasible mitigation measures, the short-term construction noise impacts at adjacent single-family homes would not be adverse.

Installation of the recycled water pipeline from Dorris Place across I-5 would require a trenchless form of construction such as microtunneling. The launching pit and associated drilling and haul truck activity would be located on the west side of the freeway to minimize disruption to the Elysian Valley community. The receiving pit, where the tunneled pipeline would be connected to the cut and cover pipeline, would be located on the east side of the freeway. Based on the Federal Highway Administration Roadway Construction Noise Model, the maximum noise level for a horizontal boring jack is 82 dBA for receptors located at 50 feet from the noise source. However, since equipment used on construction sites often operates at less than full power, an acoustical usage factor is applied. The acoustical usage factor is a percentage of time that a particular piece of equipment is anticipated to be in full power operation during a typical construction day. The acoustical usage factor for a hydraulic jack is 25 percent and the noise level for the hydraulic jack is reduced to 80 dBA. The noise level generated from the hydraulic jack would exceed the 75 dBA at 50 feet Los Angeles Municipal Code Section 112.05 noise limitation. Mitigation measures N-2 through N-11 would be implemented to reduce construction noise levels to the greatest extent feasible. Additionally, mitigation measure N-12 would be implemented to mitigate construction noise impacts at Dorris Place Elementary School. With implementation of these feasible mitigation measures, short-term construction noise impacts at Dorris Place Elementary School would not be adverse.

N-2 All construction equipment shall be properly maintained and equipped with mufflers and other suitable noise attenuation devices.

N-3 LADWP shall endeavor to use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment). Noisy equipment shall be used only when necessary and shall be switched off when not in use.

N-4 LADWP shall ensure that all stockpiling and vehicle staging areas are located away from noise-sensitive receivers.

N-5 A public liaison for project construction shall be identified who shall be responsible for addressing public concerns about construction activities, including excessive noise. The liaison shall determine the cause of the concern (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to address the concern.

N-6 LADWP shall develop a construction schedule to ensure that the construction would be completed quickly to minimize the time a sensitive receptor would be exposed to construction noise.

N-7 Construction supervisors shall receive training on project-specific noise requirements, noise issues for sensitive land uses adjacent to the pipeline alignment, and/or equipment operations.

N-8 Construction equipment shall be electric- and hydraulic-powered rather than diesel and pneumatic powered, as feasible.

N-9 During all construction activities in residential neighborhoods, temporary barriers shall be utilized to the extent feasible around noisy equipment located within 500 feet of a sensitive receptor. Staging sites shall not be located within 500 feet of a sensitive receptor. A temporary barrier shall be employed when staging sites are restricted to residential neighborhoods.

N-10 Prior to construction work, the public shall be notified of the location and dates of construction. Residents shall be kept informed of any changes to the schedule.

N-11 Haul routes shall be on major arterial roads within non-residential areas. If not feasible, haul routes shall be reviewed and approved before the haul route can be located on major arterial roads in residential areas.

N-12 LADWP shall coordinate with the site administrator for Dorris Place Elementary School to discuss construction activities that generate high noise levels. Coordination between the site administrator and LADWP shall continue on an as-needed basis throughout the construction phase of the project to mitigate potential disruption of classroom activities.

In addition, the proposed action includes demolition of the existing LARAP-owned 600 gpm pump station and 0.5 MG tank. Demolition activity is anticipated to be completed in approximately three months. Consequently, any potential noise impacts related to demolition activities would be short-term and temporary. The existing 600 gpm pump station is located on the west side of I-5 and inside the park boundary; whereas, the demolition of the existing 0.5 MG tank would occur on the hilltop near Elysian Fields. Noise from demolition activities would generally affect the areas immediately adjacent to the demolition sites, specifically areas less than 500 feet from the demolition site. The nearest noise-sensitive receptors to the existing 600 gpm pump station are Dorris Place Elementary School and single-family residences along Riverside Drive, located approximately 1,100 feet to the east. The nearest noise-sensitive receptor to the existing 0.5 MG tank is Grace E. Simons Lodge, located approximately 1,685 feet to the west. At these distances, noise-related to demolition activities would not be audible at nearby noise-sensitive receptors. Furthermore, the noise-sensitive receptors would be separated from the demolition site by the elevated terrain. The elevated terrain would act as sound barriers and attenuate sound levels at nearby noise-sensitive receptors. In addition to natural attenuation, the proposed action would also incorporate source reduction techniques as part of its design features to further reduce noise levels at nearby noise sensitive receptors. Therefore, demolition noise at Dorris Place Elementary School and Grace E. Simons Lodge would not be adverse.

The proposed action could also include nighttime construction activity along Stadium Way. Los Angeles Municipal Code Section 41.40 (Noise Due to Construction, Excavation Work) states that construction activity that would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other place of residence should not take place between 9:00 p.m. and 7:00 a.m. Based on language included in Los Angeles Municipal Code Section 112.04, a screening distance of 500 feet from construction activity was used to identify the radius of potential impacts. No sleeping quarters are located within 500 feet of Stadium Way. Therefore, short-term construction-related nighttime noise levels would not be adverse.

Following installation of the recycled and potable water pipelines and facilities, the proposed action would not have an operational component. Therefore, there would be no long-term operational noise impacts.

HDD Alternative

Under the HDD Alternative, construction activity would involve horizontal directional drilling through the hillside within Elysian Park between the proposed recycled water pump station to the proposed location of the recycled water storage tank. In order to construct this alignment through the hillside, instead of following an existing public roadway, a tunneling technique known as horizontal directional drilling would be required. This entails boring an approximately 2,300-foot long tunnel under Elysian Park. This type of construction requires an approximately 400 foot by 200 foot launching area for the surface launched drill, as well as a pipe lay-down area. The launching area for the tunneling would be near the proposed recycled water pump station at the bottom of the hill next to I-5, and the receiving area would be near the proposed 2 MG tank at the top of the hill near Elysian Fields.

As mentioned previously, noise level related to tunneling technique would generate noise in excess of 75 dBA at 50 feet. At this noise level, the HDD Alternative would exceed the noise limitation specified in the Los Angeles Municipal Code Section 112.05. Mitigation measures N-2 through N-11 would be implemented to reduce construction noise levels to the greatest extent feasible. Additionally, mitigation measure N-12 would be implemented to reduce construction noise impacts at Dorris Place Elementary School. With implementation of these feasible mitigation measures, short-term construction noise impacts associated with the HDD Alternative would not be adverse.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.2 above. Therefore, no direct or indirect short- or long-term noise impacts would occur under the No Action Alternative.

4.3 Odor

Proposed Action

Determination of significance for potential odor impacts to the environment is based on the potential for odor to result from any action taken within the project area. Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed alignment and facility sites of the proposed action. The proposed action would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, odors generated during construction would not be adverse. Operation of the proposed action would not create new sources of odor; therefore, no odor impact would occur during project operation.

HDD Alternative

The HDD Alternative would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, odors generated during construction would not be adverse. Operation of the HDD Alternative would not create new sources of odor; therefore, no odor impact would occur during project operation under the HDD Alternative.

No Action Alternative

Under the No Action Alternative, no construction activity would occur; thus, no new sources of odor would be introduced into the project area. Therefore, no impacts would occur due to odors at the project site or in the surrounding area.

4.4 Water Resources

Proposed Action

Determination of significance of potential impacts on water resources is based on water availability, quality, and use, and associated regulations such as the Clean Water Act. High water demand is typically associated with residences, hotels, and large offices. Although the proposed action would install a new potable water pipeline and booster pump, the potable water usage would be offset with the provision of the recycled water pipeline and facilities for non-potable uses, such as irrigation. Therefore, additional water supplies would not be needed.

Construction activities, such as grading and excavation, would result in the disturbance of soil and temporarily increase the potential for soil erosion. Additionally, construction activities and equipment would require the on-site use and storage of fuels, lubricants, and other hydrocarbon fluids. Storm events occurring during the construction phase would have the potential to carry disturbed sediments and spilled substances from construction activities off site to nearby receiving waters.

Prior to the start of construction, LADWP would be required to obtain a General Construction Activity Stormwater Permit in accordance with the National Pollution Discharge Elimination System requirements, issued by the State Water Resources Control Board. One of the conditions of the General Permit is the development and the implementation of a

Storm Water Pollution Prevention Plan (SWPPP), which would identify structural and nonstructural Best Management Practices to be implemented during the construction phase, as described in mitigation measure SR-1 on page 4-12 below. Additionally, LADWP would develop and implement an erosion control plan for the proposed action. Therefore, adverse impacts on water quality from construction activities would be less than significant.

Upon completion of the proposed action, storm flows would be directed to the existing storm drain system, similar to existing conditions. There would be no exposed soils remaining at completion of construction activities; therefore, there would be no potential for soil erosion or contamination. No long-term impact to water quality would occur during project operations.

Additionally, the proposed action would not be located within a sole source aquifer or within a wild and scenic river. Therefore, no impacts related to source water protection or rivers subject to the Wild and Scenic Rivers Act would occur.

HDD Alternative

Although the HDD Alternative would install a new potable water pipeline and booster pump, the potable water usage would be offset with the provision of the recycled water pipeline and facilities for non-potable uses, such as irrigation. Therefore, additional water supplies would not be needed. Additionally, with implementation of mitigation measure SR-1, the HDD Alternative would not violate any water quality standards. Therefore, adverse impacts on water quality from construction activities would be less than significant.

Upon completion of the HDD Alternative, storm flows would be directed to the existing storm drain system, similar to existing conditions. There would be no exposed soils remaining at completion of construction activities; therefore, there would be no potential for soil erosion or contamination. No long-term impact to water quality would occur during project operations under the HDD Alternative.

The HDD Alternative would not be located within a sole source aquifer or within a wild and scenic river. Therefore, no impacts related to source water protection or rivers subject to the Wild and Scenic Rivers Act would occur under the HDD Alternative.

No Action Alternative

Under the No Action Alternative, no construction activity would occur, and no soils would be temporarily exposed. Therefore, no impacts to water quality, availability, or use would occur under the No Action Alternative. Additionally, no impacts to wild and scenic rivers would occur under the No Action Alternative.

4.5 Wetlands

Proposed Action

Determination of the significance of potential impacts to jurisdictional wetlands is based on the presence or absence of such areas within the project footprint. EO 11990, Protection of Wetlands, and the Clean Water Act have regulatory authority over wetlands in the U.S. As discussed in Section 3.5 above, the Los Angeles River is located adjacent to and north of the proposed recycled water pipeline alignment on the Los Angeles River Bike Path. However, all construction activities would occur within the existing bike path. As such, no direct impacts to wetlands would occur with implementation of the proposed action. Additionally, the proposed action does not include any crossings over jurisdictional wetlands.

Construction activities could result in short-term, indirect impacts related to dust, soil erosion, and water runoff, which could carry sediments to nearby waterways. However, LADWP would implement a Storm Water Pollution Prevention Plan, as required under the National Pollution Discharge Elimination System General Construction Activity Stormwater Permit, which would identify structural and nonstructural Best Management Practices to be implemented during the construction phase. Additionally, LADWP would also develop and implement an erosion control plan for the proposed action. Further, all construction activities would be subject to typical requirements under the federal Clean Water Act. With implementation of the Storm Water Pollution Prevention Plan and the erosion control plan, as well as compliance with the Clean Water Act, short-term, indirect adverse impacts to jurisdictional wetlands would be less than significant.

HDD Alternative

The Los Angeles River is located adjacent to and north of the proposed recycled water pipeline alignment on the Los Angeles River Bike Path. However, all construction activities would occur within the existing bike path. As such, no direct impacts to wetlands would occur with implementation of the proposed action. Additionally, the proposed action does not include any crossings over jurisdictional wetlands.

With implementation of the Storm Water Pollution Prevention Plan and the erosion control plan, and compliance with the Clean Water Act, short-term, indirect adverse impacts to jurisdictional wetlands would be less than significant under the HDD Alternative.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.5 above. Therefore, no impacts to wetlands would occur under the No Action Alternative.

4.6 Floodplains

Proposed Action

The proposed action does include construction of a few permanent above-ground structures. However, as discussed in Section 3.6 above, the proposed action would not be located within a 100-year floodplain. Additionally, the permanent structures would be located within Elysian Park and surrounded by open space. Therefore, the proposed action would not impact flood flows. No impacts related to placement of structures within a 100-year floodplain would occur.

HDD Alternative

The HDD Alternative would not be located within a 100-year floodplain. Additionally, the proposed permanent structures would be located within Elysian Park and surrounded by open space. Therefore, the HDD Alternative would not impact flood flows. No impacts related to placement of structures within a 100-year floodplain would occur.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.6 above. Therefore, no impacts related to floodplains would occur under the No Action Alternative.

4.7 Public Health and Safety

Proposed Action

One closed Leaking Underground Storage Tank site was identified along Dorris Place during the hazardous waste sites database search. This site is not considered active as cleanup has already been completed and the case has been closed. No active sites were identified on or near the project site. Therefore, no impacts from hazardous waste sites would occur.

Construction activities would be temporary in nature and would involve the limited transportation, storage, usage, and disposal of hazardous materials. Such hazardous materials could include on-site fueling/servicing of construction equipment, and the transport of fuels, lubricating fluids, and solvents. These types of materials are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by USEPA, the California Department of Toxic Substances Control, and the Occupational Safety & Health Administration. The transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal and state regulations governing such activities. Compliance with existing regulations would mitigate the potential for release of hazardous materials, and the short-term impact would not be adverse.

Long-term operation of the proposed action would not involve the transport, storage, use, or disposal of hazardous materials. Additionally, the proposed action would not generate industrial wastes or toxic substances during operation. Therefore, project operation would not pose a significant hazard to the public or the environment. No long-term operational impact related to the use or transport, or release of hazardous materials would occur.

HDD Alternative

No active hazardous waste sites were identified on or near the project site. Therefore, no impacts from hazardous waste sites would occur.

The transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal and state regulations governing such activities. Compliance with existing regulations would mitigate the potential for release of hazardous materials, and the short-term impact would not be adverse under the HDD Alternative.

Long-term operation of the HDD Alternative would not involve the transport, storage, use, or disposal of hazardous materials. Additionally, the HDD Alternative would not generate industrial wastes or toxic substances during operation. Therefore, project operation would not pose a significant hazard to the public or the environment. No long-term operational impact related to the use or transport, or release of hazardous materials would occur.

No Action Alternative

Under the No Action Alternative, no construction activities would occur. Public health and safety conditions would remain the same as described in Section 3.7 above, and no impacts would occur.

4.8 Surface Resources

Proposed Action

Soils

Construction activities would involve trenching, boring (for the segment of pipeline extending from Dorris Place into Elysian Park under I-5), and soil disturbance. Construction activities would expose soils for a limited time, allowing for possible erosion. Therefore, the construction contractor would develop and implement an erosion control plan and a Storm Water Pollution Prevention Plan for construction activities, in compliance with the latest National Pollutant Discharge Elimination System requirements for storm water discharges, as described in mitigation measure SR-1. Implementation of mitigation measure SR-1 would ensure project compliance with National Pollutant Discharge Elimination System requirements. Additionally, Rule 403 dust control measures would be implemented as required by the SCAQMD. Implementation of mitigation measure SR-1 would minimize soil erosion and the impacts would not be adverse.

SR-1 The construction contractor would develop and implement an erosion control plan and Storm Water Pollution Prevention Plan for construction activities. Erosion control and grading plans shall include, but not be limited to, the following:

- Minimizing the extent of disturbed areas and duration of exposure;
- Stabilizing and protecting disturbed areas;
- Keeping runoff velocities low; and
- Retaining sediment within the construction area.
- Construction erosion control Best Management Practices shall include, but not be limited to, the following:

  a. Temporary desilting basins;
  b. Silt fences;
  c. Gravel bag barriers;
  d. Temporary soil stabilization with mattresses and mulching;
  e. Temporary drainage inlet protection; and
  f. Diversion dikes and interceptor swales.

No large areas of exposed soils subject to erosion would be created or affected by operation of the proposed action. Therefore, there would be no long-term impact to erosion.

Topography

Determination of the significance of potential impacts to topography is based on the presence or absence of unique geologic features, landscapes, or landforms in the project footprint. An impact on topography would be considered significant if it would negatively affect unique geological features, landscapes, or landforms. Topography on the project site includes flat areas surrounded by steep slopes. The proposed action would occur within designated hillside areas. Construction and grading activities could potentially increase the risk of landslides in the hillside areas. However, all construction work in areas containing slopes would be stabilized as necessary to prevent landslides. Additionally, grading activities would not occur on hillside areas. Compliance with existing regulations would ensure that the impact related to topography and landslides would not be adverse.

Seismic Activity

Potential impacts from seismic events include ground rupture, ground shaking, liquefaction, and differential sediment due to improper fill or subsidence. As discussed in Section 3.8 above, the nearest fault is the Elysian Park Fault located on the northeastern edge of Elysian Park adjacent to I-5. The portion of the proposed recycled water pipeline alignment from Dorris Place into Elysian Park would cross over this fault. However, the project area is not located within an Alquist-Priolo Earthquake Fault Zone. Additionally, as discussed in Section 3.8 above, portions of the project site are located within a State-designated liquefiable area. The proposed recycled and potable water pipelines and associated facilities would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal and state codes relative to seismic and liquefaction criteria. The proposed action does not involve the extraction of any groundwater, oil, or gas from the project site; therefore, subsidence would not occur. Compliance with existing regulations would ensure short-term impacts related to geologic hazards would not be adverse.

HDD Alternative

Soils

During construction of the HDD Alternative, transport of sediments from the project site by storm water runoff and winds could occur. Therefore, the construction contractor would develop and implement an erosion control plan and a Storm Water Pollution Prevention Plan for construction activities, in compliance with the latest National Pollutant Discharge Elimination System requirements for storm water discharges, as described in mitigation measure SR-1. Implementation of mitigation measure SR-1 would ensure project compliance with National Pollutant Discharge Elimination System requirements. Additionally, Rule 403 dust control measures would be implemented as required by the SCAQMD. Implementation of mitigation measure SR-1 would ensure that soil erosion impacts would not be adverse.

Topography

Topography on the project site includes flat areas surrounded by steep slopes. The HDD Alternative would be constructed within designated hillside areas. Construction and grading activities could potentially increase the risk of landslides in the hillside areas. However, all construction work in areas containing slopes would be stabilized as necessary to prevent landslides. Additionally, grading activities would not occur on hillside areas. Compliance with existing regulations would ensure that the impact related to topography and landslides would not be adverse.

Seismic Activity

The portion of the proposed recycled water pipeline alignment from Dorris Place into Elysian Park would cross over the Elysian Park Fault. However, the project area is not located within an Alquist-Priolo Earthquake Fault Zone. Additionally, portions of the project site are located within a State-designated liquefiable area. The proposed recycled and potable water pipelines and associated facilities would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal and state codes relative to seismic and liquefaction criteria. The HDD Alternative does not involve the extraction of any groundwater, oil, or gas from the project site; therefore, subsidence would not occur. Compliance with existing regulations would ensure short-term impacts related to geologic hazards would not be adverse.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and no changes to the existing geologic and soil conditions would occur. Conditions would remain the same as described in Section 3.8 above, and no impacts would occur.

4.9 Vegetation and Wildlife

Proposed Action

Vegetation

The project site is developed or heavily disturbed and does not contain quality habitat for sensitive plant species. Thus, no sensitive plants are expected to occur, nor were any sensitive plant species observed at the project site during the field surveys. Additionally, the project site does not contain any sensitive vegetation communities. Therefore, implementation of the proposed action would not result in impacts to sensitive plant species or vegetation communities.

Wildlife

The project site contains mature trees and other vegetation that is suitable for use by migratory birds, which are protected under the Migratory Bird Treaty Act of 1918. If vegetation removal occurs during the nesting/breeding season, a potential indirect and adverse impact to migratory birds could occur. As required by USFWS, surveys would be conducted to locate active nests within the construction area, as described in mitigation measure BIO-1. This measure would mitigate potential impacts to migratory birds, if present, through pre-construction surveys and prohibition of construction activities in proximity to an active nest. Implementation of mitigation measure BIO-1 would ensure project compliance with the Migratory Bird Treaty Act. With implementation of the mitigation measure, short-term indirect adverse impacts to nesting migratory birds would not be adverse.

BIO-1 Should vegetation removal or tree trimming occur during the breeding season for migratory non-game native bird species (February 15 through September 15), nesting bird surveys shall be conducted in order to detect any protected native birds nesting within the construction work area. Surveys shall be conducted weekly, beginning no earlier than 30 days and ending no later than 3 days prior to the commencement of disturbance. If an active nest is discovered, disturbance within a particular buffer shall be prohibited until nesting is complete; the buffer distance shall be determined by the biological monitor in consideration of species sensitivity and existing nest site conditions. Limits of avoidance shall be demarcated with flagging or fencing. Once a flagged nest is determined to be no longer active, the biological monitor would remove all flagging and allow construction activities to proceed.

Due to the urbanized nature of the project site and its distance from the nearest coastal waters, the proposed action would not affect Essential Fish Habitat.

HDD Alternative

Vegetation

The project site is developed or heavily disturbed and does not contain quality habitat for sensitive plant species. Thus, no sensitive plants are expected to occur, nor were any sensitive plant species observed at the project site during the field survey. Additionally, the project site does not contain any sensitive vegetation communities. Therefore, implementation of the HDD Alternative would not result in impacts to sensitive plant species or vegetation communities.

Wildlife

The project site contains mature trees and other vegetation that is suitable for use by migratory birds, which are protected under the Migratory Bird Treaty Act of 1918. If vegetation removal occurs during the nesting/breeding season, a potential indirect and adverse impact to migratory birds could occur. Implementation of mitigation measure BIO-1 in accordance with USFWS requirements would ensure project compliance with the Migratory Bird Treaty Act. With implementation of the mitigation measure, short-term indirect adverse impacts to nesting migratory birds would not be adverse under the HDD Alternative.

Due to the urbanized nature of the project site and its distance from the nearest coastal waters, the HDD Alternative would not affect Essential Fish Habitat.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.9. No direct or indirect impacts to sensitive plant or wildlife species or habitats would occur under the No Action Alternative. Additionally, no direct or indirect impacts to Essential Fish Habitat would occur under the No Action Alternative.

4.10 Threatened and Endangered Species

Proposed Action

Special-Status Plants

As discussed in Section 3.10 above, Greata's aster is reported to have occurred in Elysian Park in 1932. However, it was not found in the 2013 survey due to development in the area and vegetation habitat type conversion. Additionally, due to the presence of non-native, disturbed habitats in the project area, Greata's aster is unlikely to be found in the seed bank occurring on-site. Thus, no special-status plants are expected to occur, and no such plants were observed during the biological field surveys. Therefore, no impacts to special status plant species would occur.

Special-Status Wildlife

Trees and palms throughout the project site provide marginally suitable roosting habitat for hoary bats, a CDFW Species of Concern. However, this special-status bat species is not expected to occur due to the developed and disturbed nature of the project site. Additionally, known occurrences of this species have not been recorded on the project site. No impacts to special status wildlife would occur.

HDD Alternative

Special-Status Plants

Greata's aster is reported to have occurred in Elysian Park in 1932. However, due to development in the area and vegetation habitat type conversion, it was not observed during the biological field surveys. Additionally, due to the presence of non-native, disturbed habitats in the project area, Greata's aster is unlikely to be found in the seed bank occurring on-site. Thus, no special-status plants are expected to occur, and no such plants were observed during the biological field surveys. Therefore, no impacts to special status plant species would occur.

Special-Status Wildlife

Trees and palms throughout the project site provide marginally suitable roosting habitat for hoary bats, a CDFW Species of Concern. However, this special-status bat species is not expected to occur due to the developed and disturbed nature of the project site. Additionally, known occurrences of this species have not been recorded on the project site. No impacts to special status wildlife would occur.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.10. No direct impacts to special-status plant or wildlife species, or indirect impacts to their habitat(s), would occur under the No Action Alternative.

4.11 Cultural Resources and Historic Property

Proposed Action

The project APE, including a segment of the potable water pipeline alignment and the potable water booster pump, housed within an existing pump house, would be located within a portion of LACHM No. 48 Chavez Ravine Arboretum. As such, a portion of the Chavez Ravine Arboretum would be adversely impacted by the proposed action. Therefore, mitigation measure CR-1 would be implemented to preserve the arboretum landscape during construction. Implementation of the mitigation measure would ensure that adverse impacts to this resource would be less than significant. Additionally, as further discussed in Section 4.13, Aesthetics, below, the proposed new potable water booster pump would be housed within an existing pump house, and would not substantially change the visual character of the site or its surroundings.

CR-1 Installation of the booster pump and potable water pipeline within the arboretum shall be designed so as not to require removal of or cause root damage to the tree plantings within the Chavez Ravine Arboretum. LARAP staff with knowledge of the trees and their root systems shall be consulted in order to avoid removal of trees or damage to root systems that may lie within or adjacent to the project APE. Lawn (grass) to be removed during trenching shall be replaced in the post-construction phase, to the extent feasible.

LAHCM No. 110, the Los Angeles Police Academy Rock Garden, is located adjacent to the APE alignment within the project vicinity; however, this resource does not overlap with any portion of the APE. Therefore, this resource would not be adversely impacted by the proposed action.

As Elysian Park itself is historic in age and includes numerous components, some of which have been designated LAHCMs, and others noted as points of interest associated with the park, the park was evaluated for eligibility for listing in the California Register of Historic Resources and the National Register of Historic Places. The significance of Elysian Park is at the local and state level. For its association with events that have made a contribution to the broad patterns of California's history and cultural heritage, Elysian Park is recommended eligible to the California Register of Historic Resources under Criterion 1. As such, installation of the forebay tank and recycled water tank, and the recycled and non-potable water pumping stations would adversely affect the visual landscape of the park. As discussed in Section 4.13, Aesthetics, below, mitigation measures VIS-1 and VIS-2 would be implemented to ensure that a neutral paint color, chosen in coordination with LARAP, would be used for the proposed new potable and recycled water tanks so as to blend with the existing tank and surrounding park setting, and would be screened from view with trees, shrubs or other vegetation. Additionally, mitigation measure CR-2 would be implemented to ensure that the forebay tank, and non-potable and recycled water pumping stations would be designed to be visually consistent with the landscape of the park. With implementation of the mitigation measure, adverse impacts related to the design and placement of the forebay tank, and non-potable and recycled water pumping stations would be less than significant.

CR-2 The forebay tank, and non-potable and recycled water pumping stations shall be designed to be visually consistent with the landscape of Elysian Park and shall be carried out in compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties.

Elysian Park does not meet the criteria for inclusion in the National Register of Historic Places.

The project site's location relative to the Los Angeles River would have provided access to important resources during all periods of prehistory. Additionally, as the APE has been primarily used as parkland since 1883, it is possible that prehistoric resources and/or historic sites could be buried beneath the surface within the park, especially in areas where development has included only minimal ground disturbance, or in areas where development (such as roads or pathways) may have effectively capped buried prehistoric resources.

Furthermore, research also indicates the proximity of a Native American village to the project area. As such, construction could potentially uncover Native American cultural resources and buried sites related to historic use of the project area. Therefore, mitigation measures CR-3 through CR-6 would ensure that adverse impacts to potential prehistoric resources, historic resources, and Native American resources would be less than significant through the use of an archaeological monitor during construction.

CR-3 A qualified archaeological monitor shall be on-site during all ground disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and receiving pits for microtunneling. The location of the launching and receiving pits shall be excavated in a controlled manner with a flat blade for the first 5 feet, under the direction of the archaeological monitor. The qualified archaeological monitor shall work under the direction of a qualified archaeological Principal Investigator.

CR-4 The archaeological monitor shall conduct worker training prior to the initiation of ground disturbing activity in order to inform workers of the types of resources that may be encountered and apprise them of appropriate handling of such resources.

CR-5 If any prehistoric archaeological sites are encountered within the APE, consultation with interested Native American parties shall be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources.

CR-6 The archaeological monitor, through LADWP's construction manager, shall have the authority to redirect construction equipment in the event that potential archaeological resources are encountered. In the event that archaeological resources are encountered, LADWP shall be notified immediately and work in the vicinity of the discovery shall halt until appropriate treatment of the resource is determined by the qualified archaeological Principal Investigator in accordance with the provisions of Section 106 of the National Historic Preservation Act.

During construction of the proposed action, there is potential to encounter historic water conveyance features related to the Los Angeles zanja (irrigation ditch) system, as well as historic street surface in the Elysian Valley neighborhood. Research suggests that the historic location of a component of the Los Angeles zanja system known as the Chavez Ditch crosses the path of the project APE near the intersection of Riverside Drive and Dorris Place. In addition, the historic location of a Los Angeles Water Company ditch crosses the path of the project APE south of I-5 near the proposed location of the forebay tank, and non-potable and recycled water pump stations. Therefore, mitigation measure CR-3 would ensure that adverse impacts to the Los Angeles zanja system and any historic street surfaces would be less than significant through the use of an archaeological monitor and controlled excavation during construction in this area.

Mitigation measures CR-1 through CR-6 would ensure that impacts to cultural resources and historic properties would not be adverse under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act.

HDD Alternative

Implementation of mitigation measure CR-1 would ensure that adverse impacts to Chavez Ravine Arboretum would be less than significant. Additionally, as further discussed in Section 4.13, Aesthetics, below, the proposed new potable water booster pump would be housed within an existing pump house, and would not substantially change the visual character of the site or its surroundings.

Mitigation measure CR-2 would be implemented to ensure that the forebay tank, and non-potable and recycled water pumping stations would be designed to be visually consistent with the landscape of the park. With implementation of the mitigation measure, adverse impacts related to the design and placement of the forebay tank, and non-potable and recycled water pumping stations would be less than significant.

Construction activities associated with the HDD Alternative could potentially uncover Native American cultural resources and buried sites related to historic use of the project area. Therefore, mitigation measures CR-3 through CR-6 would ensure that adverse impacts to potential prehistoric resources, historic resources, and Native American resources would be less than significant through the use of an archaeological monitor during construction.

During construction of the HDD Alternative, there is potential to encounter historic water conveyance features related to the Los Angeles zanja (irrigation ditch) system, as well as historic street surface in the Elysian Valley neighborhood. In addition, the historic location of a Los Angeles Water Company ditch crosses the path of the project APE south of I-5 near the proposed location of the forebay tank, and non-potable and recycled water pump stations. Therefore, mitigation measure CR-3 would ensure that adverse impacts to the Los Angeles zanja system and any historic street surfaces would be less than significant through the use of an archaeological monitor and controlled excavation during construction in this area.

Mitigation measures CR-1 through CR-6 would ensure that impacts to cultural resources and historic properties would not be adverse under the NEPA and Section 106 of the National Historic Preservation Act.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.11 above. No impacts to cultural resources or historic properties would occur under the No Action Alternative.

4.12 Land Use and Infrastructure

Proposed Action

The alignment of the proposed recycled and potable water pipelines would be placed within existing roadways, dirt hiking trails, and previously disturbed areas, with a portion of the potable water pipeline running up a disturbed vegetated hillside within the park. Additionally, the recycled and non-potable water pumping stations and the proposed recycled water and forebay tanks would be located in areas of the park that currently contain a pumping station and potable water storage tank. No streets or sidewalks would be permanently closed as a result of the proposed action, and no separation of uses or disruption of access between land use types would occur. As such, the proposed action would not divide an established community. Additionally, the proposed recycled and potable water pipeline installation and development and installation of the recycled and non-potable water pumping stations and recycled and forebay tanks would be consistent with the General Plan designation and existing development at the project site. Thus, no General Plan Amendment would be required for implementation of the proposed action. Further, the proposed action would not be located within important farmland or within a coastal zone or coastal barrier resource. Therefore, no impacts related to land use and infrastructure would occur.

HDD Alternative

The HDD Alternative would place the proposed recycled and potable water pipelines within existing roadways, dirt hiking trails, and previously disturbed areas, with a portion of the potable water pipeline running up a disturbed vegetated hillside within the park. Additionally, the recycled and non-potable water pumping stations and the proposed recycled water and forebay tanks would be located in areas of the park that currently contain a pumping station and potable water storage tank. No streets or sidewalks would be permanently closed as a result of the HDD Alternative, and no separation of uses or disruption of access between land use types would occur. As such, the HDD Alternative would not divide an established community. Additionally, the proposed recycled and potable water pipeline installation and development and installation of the recycled and non-potable water pumping stations and recycled and forebay tanks would be consistent with the General Plan designation and existing development at the project site. Thus, no General Plan Amendment would be required for implementation of the proposed action. Further, the HDD Alternative would not be located within important farmland or within a coastal zone or coastal barrier resource. Therefore, no impacts related to land use and infrastructure would occur under this alternative.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.12 above. Therefore, no impacts to land use and infrastructure, including impacts to important farmland, coastal zones, or coastal barrier resources, would occur under the No Action Alternative.

4.13 Aesthetics

Proposed Action

The recycled water pipeline would be installed primarily within Stadium Way and other park roads. Following installation of the pipeline, the road would be repaved and returned to its existing condition. The potable water pipeline would be installed within park roads, in a fire road near the Grace E. Simons Lodge, and up a vegetated hillside within the park. All roadways disturbed during construction would be returned to the existing condition. Additionally, the hillside would be returned to its existing condition following installation of the potable water pipeline. Therefore, the short-term impact of pipeline construction to the visual character of Elysian Park would not be adverse.

As discussed above, the proposed action would include permanent above-ground structures, all of which would be located within Elysian Park. The forebay tank, non-potable water pumping station, and recycled water pumping station southwest of Dorris Place would not be visible from public viewpoints. They would be naturally screened by surrounding vegetation from motorists along I-5 and Stadium Way, from recreational users, and from the residential community in Elysian Valley. These facilities would be located in a portion of the park that is not used for active recreation, picnic facilities, or passive hiking. Therefore, they are not likely to be viewed and would not substantially degrade the existing visual character of the surrounding portions of the park. The short-term impact would not be adverse.

The potable water booster pump located near Stadium Way and Elysian Park Drive would be visible from both of these streets and viewed by numerous motorists on a daily basis using Stadium Way to access downtown Los Angeles, as well as motorists traveling to Dodger Stadium for a game or event. However, as discussed in Section 2.2 above, the proposed new potable water booster pump would be installed within an existing pump house and would be housed in a structure designed to mimic the height, size, and finish of the existing pump house. As such, the potable water booster pump would not substantially change the visual character of the site or its surroundings. No impact would occur.

One new 2 MG recycled water tank would be installed on a hilltop near Elysian Fields. This tank would be visible from the fields and from Angels Point Road within the park. The active recreation facilities and picnic areas within Elysian Fields are heavily utilized, as well as providing a scenic viewpoint to the southeast, south, and southwest of the Elysian Valley. There is an existing 500,000 gallon potable water tank currently located on this hilltop, which would be removed as part of the project. The new tank would be constructed adjacent to the location of the existing tank. The proposed new tank would be larger and taller than the existing tank. In addition, clearing of vegetation in the area would be necessary prior to construction of the concrete pad associated with the new recycled water storage tank. The proposed new tank and the associated vegetation removal would diminish the visual character of surrounding areas of Elysian Park. Mitigation measures VIS-1 and VIS-2 would be implemented to reduce the long-term adverse operational impact related to placement of the new recycled water tank to a less than significant level.

VIS-1 At the completion of construction, LADWP, in coordination with LARAP, shall paint the recycled water tank a neutral color chosen to blend in with the surrounding park setting.

VIS-2 At the completion of construction, LADWP, in coordination with LARAP, shall install trees, shrubs, or other vegetation between the proposed tank and Angels Point Drive to screen the tank from view from the roadway and Elysian Fields.

There are no state-designated scenic highways in the vicinity of the proposed action, and the proposed action would not be located within a wild or scenic river subject to the Wild and Scenic Rivers Act.

HDD Alternative

Under the HDD Alternative, the forebay tank, non-potable water pumping station, and recycled water pumping station southwest of Dorris Place would not be visible from public viewpoints. They would be naturally screened by surrounding vegetation from motorists along I-5 and Stadium Way, from recreational users, and from the residential community in Elysian Valley. These facilities would be located in a portion of the park that is not used for active recreation, picnic facilities, or passive hiking. Therefore, they are not likely to be viewed and would not substantially degrade the existing visual character of the surrounding portions of the park. The short-term impact would not be adverse under the HDD Alternative.

The proposed new potable water booster pump would be installed within an existing pump house. As such, the potable water booster pump would not substantially change the visual character of the site or its surroundings under the HDD Alternative. No impact would occur.

The proposed new 2 MG recycled water storage tank and the associated vegetation removal would diminish the visual character of surrounding areas of Elysian Park under the HDD Alternative. Mitigation measures VIS-1 and VIS-2 would be implemented to reduce the long-term adverse operational impact related to placement of the new recycled water tank to a less than significant level.

There are no state-designated scenic highways in the vicinity of the HDD Alternative, and the HDD Alternative would not be located within a wild or scenic river subject to the Wild and Scenic Rivers Act.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and there would be no changes to the existing visual character of the project site and surrounding area described in Section 3.13 above. Therefore, no impact to aesthetics, including impacts to wild and scenic rivers, would occur under the No Action Alternative.

4.14 Socioeconomics

Proposed Action

For implementation of the proposed action, construction crews would likely be hired from the available pool of workers in Los Angeles County. This would result in an increase in short-term construction employment. No long-term employment would be generated from the proposed action. Therefore, no significant impacts to socioeconomics would occur.

HDD Alternative

For implementation of the HDD Alternative, construction crews would likely be hired from the available pool of workers in Los Angeles County. This would result in an increase in short-term construction employment. No long-term employment would be generated from the HDD Alternative. Therefore, no significant impacts to socioeconomics would occur under this alternative.

No Action Alternative

Under the No Action Alternative, socioeconomics conditions would remain the same as described in Section 3.14 above. No impacts to socioeconomics would occur under the No Action Alternative.

4.15 Waste Management

Proposed Action

The significance of impacts associated with hazardous materials and wastes is determined based on whether the proposed action would involve the storage, use, or disposal of hazardous substances that would substantially increase human health risk or environmental exposure. As discussed in Section 4.7, Public Health and Safety, above, construction activities would involve the limited transportation, storage, usage, and disposal of hazardous materials. However, the transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal and state regulations governing such activities. Compliance with existing regulations would ensure that use of these materials would not pose a significant risk to the public or environment, and impacts related to hazardous wastes would not be adverse.

Construction activities would generate construction waste, such as demolition debris. The proposed action would incorporate source reduction techniques and recycling measures and maintain a recycling program during construction to divert waste in accordance with the Citywide Construction and Demolition Debris Recycling Ordinance. These measures would minimize the amount of construction debris generated by the proposed action that would need to be disposed of in an area landfill. Any non-recyclable construction waste generated would be disposed of at a landfill approved to accept such materials. All materials would be handled and disposed of in accordance with existing federal and state regulations. The proposed action would not have an operational component. As such, no solid waste would be generated with project operation. Compliance with existing regulations would ensure that the short-term construction impact related to solid waste disposal would not be adverse.

HDD Alternative

As discussed in Section 4.7, Public Health and Safety, above, construction activities associated with the HDD Alternative would involve the limited transportation, storage, usage, and disposal of hazardous materials. However, the transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal and state regulations governing such activities. Compliance with existing regulations would ensure that use of these materials would not pose a significant risk to the public or environment, and impacts related to hazardous wastes would not be adverse.

Construction activities would generate construction waste, such as demolition debris. Additionally, due to the drilling technique used under this alternative, earth material excavated from the tunnel would need to be removed from the site and disposed at the appropriate facility. The HDD Alternative would incorporate source reduction techniques and recycling measures and maintain a recycling program during construction to divert waste in accordance with the Citywide Construction and Demolition Debris Recycling Ordinance. These measures would minimize the amount of construction debris generated by the HDD Alternative that would need to be disposed of in an area landfill. Any non-recyclable construction waste generated would be disposed of at a landfill approved to accept such materials. All materials would be handled and disposed of in accordance with existing federal and state regulations. The HDD Alternative would not have an operational component. As such, no solid waste would be generated with project operation. Compliance with existing regulations would ensure that the short-term construction impact related to solid waste disposal would not be adverse.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as describe in Section 3.15 above. No impact related to waste management would occur under the No Action Alternative.

4.16 Transportation

Proposed Action

Significance of potential transportation impacts is based on the level of anticipated changes in the current transportation patterns and systems; changes in existing levels of service; and changes in existing levels of transportation safety.

Construction of the proposed action would result in temporary increases in traffic volumes associated with construction activities and reduced roadway capacities during brief periods of time; however, this condition would be temporary. No complete street closures are anticipated during project construction. Existing on-street parking areas along the proposed pipeline alignment would be utilized as travel lanes to minimize traffic lane closures during construction, as necessary. Further, each roadway segment would be affected only as construction occurs on that segment, not for the entire duration of the construction period. Roadways studied in the project area include Stadium Way, Riverside Drive, Dorris Place, Blake Avenue, and Riverdale Avenue. Temporary traffic lane closures during the construction of the pipelines would affect some nearby residential uses, including driveway access, use of adjacent on-street parking, and neighborhood circulation. Construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. As discussed previously, approximately 90 linear feet of pipeline would be installed per day and construction is anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. Therefore, traffic delays resulting from installation of the pipeline within a roadway block would be short-term and temporary. However, for the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary (see Appendix D). Implementation of mitigation measures TR-1 and TR-2 would mitigate these impacts through development of a Traffic Management Plan (TMP) and coordination with Caltrans to obtain permits for transport of oversized loads on State facilities, if necessary. With implementation of mitigation measures TR-1 and TR-2, short-term adverse construction impacts related to transportation would be less than significant.

TR-1 LADWP, prior to the start of construction, shall coordinate with Los Angeles Department of Transportation (LADOT) to prepare a TMP. The TMP, which details construction traffic control and detour (traffic deviations via alternative routes) methods for each phase of construction, shall be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The TMP would be approved by the applicable local jurisdiction(s) for each construction segment prior to the start of work within public roadways along the proposed pipeline alignment. Methods to inform the public regarding project construction and roadway and bike path detours and closures would be implemented as part of the TMP, which shall include the following:

a. Directional capacity (generally southbound/westbound in the morning peak hour and northbound/eastbound in the evening peak hour) shall be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow, shall be used to alleviate any potential poor level of service conditions. Left-turn lanes and other approach lanes (as feasible) shall be maintained in close vicinity to major intersections along the proposed pipeline routes.

b. Provide continued through access via detours for vehicles and to provide for adequate pedestrian and transit circulation. Signed detour routes and other potential routes that drivers would utilize during the construction period would become alternate routes for a proportion of the vehicles that would otherwise travel along the corridor where construction would be taking place.

c. For the project detour routes, wayfinding signs and other relevant traffic control devices shall be placed on all major roadways into the larger area around each construction closure locations, and shall be repositioned for each construction segment (as the construction zones progress along the proposed pipeline alignment). Wayfinding signs shall be placed at major detour decision points to keep vehicles on-track through the detour route, and shall also be placed at the next major intersection location in advance of the first detour decision point.

d. Consult with local transit agencies to minimize impacts to passenger loading areas and to minimize travel times on scheduled transit routes. All affected transit agencies shall be contacted to provide for any required modifications or temporary relocation of transit facilities.

TR-2 LADWP shall consult with the California Department of Transportation (Caltrans) to obtain permits for the transport of oversized loads, and to obtain encroachment permits for any work along State facilities.

HDD Alternative

Construction of the HDD Alternative would result in temporary increases in traffic volumes associated with construction activities and reduced roadway capacities during brief periods of time; however, this condition would be temporary. No complete street closures are anticipated during project construction. Existing on-street parking areas along the proposed pipeline alignment would be utilized as travel lanes to minimize traffic lane closures during construction, as necessary. Further, each roadway segment would be affected only as construction occurs on that segment, not for the entire duration of the construction period. Roadways studied in the project area include Stadium Way, Riverside Drive, Dorris Place, Blake Avenue, and Riverdale Avenue. Temporary traffic lane closures during the construction of the pipelines would affect some nearby residential uses, including driveway access, use of adjacent on-street parking, and neighborhood circulation. Construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. As discussed previously, approximately 90 linear feet of pipeline would be installed per day and construction is anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. Therefore, traffic delays resulting from installation of the pipeline within a roadway block would be short-term and temporary. However, for the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary (see Appendix D). Implementation of mitigation measures TR-1 and TR-2 would mitigate these impacts through development of a Traffic Management Plan (TMP) and coordination with Caltrans to obtain permits for transport of oversized loads on State facilities, if necessary. With implementation of mitigation measures TR-1 and TR-2, short-term adverse construction impacts related to transportation would be less than significant.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.16 above. No impact to transportation would occur under the No Action Alternative.

4.17 Energy

Proposed Action

The proposed recycled and potable water pipelines would be located within existing roadways and disturbed hillside areas and would not require energy usage. The proposed pumping stations would require the use of energy during operation; however, operation of these facilities would not require substantial energy loads. Therefore, no significant impacts related to energy consumption would occur with implementation of the proposed action.

HDD Alternative

Under the HDD Alternative, the proposed recycled and potable water pipelines would be located within existing roadways and disturbed hillside areas and would not require energy usage. The proposed pumping stations would require the use of energy during operation; however, operation of these facilities would not require substantial energy loads. Therefore, no significant impacts related to energy consumption would occur with implementation of the HDD Alternative.

No Action Alternative

Under the No Action Alternative, the pumping stations would not be constructed and conditions would remain as described in Section 3.17 above. No impact to energy resources would occur under the No Action Alternative.

4.18 Environmental Justice and Protection of Children

Proposed Action

Construction activities would primarily occur within Elysian Park, with a portion of the alignment placed along the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, and Dorris Place. Following installation of the proposed pipelines, the roadways would be returned to their existing conditions. The proposed permanent, above-ground structures would be constructed in areas already containing LADWP facilities. No direct or indirect, or short- or long-term impacts from construction or operation of the proposed action are anticipated to disproportionately affect low-income populations, minority populations, or children in the City or the surrounding area. No impacts to these groups would occur.

HDD Alternative

Under the HDD Alternative, construction activities would primarily occur within Elysian Park, with a portion of the alignment placed along the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, and Dorris Place. Following installation of the proposed pipelines, the roadways would be returned to their existing conditions. The proposed permanent, above-ground structures would be constructed in areas already containing LADWP facilities. No direct or indirect, or short- or long-term impacts from construction or operation of the proposed action are anticipated to disproportionately affect low-income populations, minority populations, or children in the City or the surrounding area. No impacts to these groups would occur.

No Action Alternative

Under the No Action Alternative, no construction activity would occur and conditions would remain the same as described in Section 3.18 above. No impacts related to environmental justice and protection of children would occur under the No Action Alternative.

4.19 Cumulative Impacts

Cumulative impacts on environmental resources result from incremental impacts of the proposed action when combined with other past, present, and reasonably foreseeable future projects in an affected area. Cumulative impacts can result from minor but collectively substantial actions undertaken over a period of time by various federal, state, or local agencies, or individuals. In accordance with NEPA, this section discusses cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the near future. The Elysian Reservoir Water Quality Improvement Project and the Downtown Water Recycling Project are known future projects in the vicinity of the proposed action and were considered in the cumulative impacts analysis. The environmental document for each of these projects can be found on the LADWP website at: http://www.ladwp.com/envnotices. Implementation of the proposed action, if conducted simultaneously with other construction projects in the area could cumulatively impact air quality, noise, and transportation; however, all adverse impacts would be short-term and temporary, occurring only during construction of the proposed action. Additionally, the use of best management practices and implementation of the mitigation measures would reduce impacts to less than significant levels.

As discussed above, the proposed action would not have an operational component; thus, no long-term cumulative impacts would occur with implementation of the proposed action. Additionally, the proposed action does not include development of residences or businesses, and would not increase the capacity of existing water supply infrastructure. Therefore, no direct or indirect growth-inducing effects would occur. Further, the proposed action would offset potable water usage within Elysian Park with the provision of the recycled water pipeline and facilities for non-potable uses, such as irrigation. Cumulative adverse impacts would not occur with implementation of the proposed action.

4.20 Selection of the Preferred Alternative

Three primary screening criteria were used when evaluating the alternatives, including operational effectiveness (must meet the project purpose and need), feasibility and cost-effectiveness, and environmental constraints (minimal impacts to environmental and cultural resources). After evaluating each alternative against the three criteria, Alternative 1 was selected as the Preferred Alternative based on its effectiveness in maximizing the use of recycled water for non-potable uses and enhancing water supply reliability for the City. Additionally, due to construction techniques, Alternative 1 is the most cost-effective and feasible alternative. With the HDD Alternative, the completion of pipeline maintenance would be prohibitively more expensive due to the location and depth at which the pipe would need to be placed, which presents challenges to access of the pipeline for customer connections, repairs, etc. The No Action Alternative would not meet the purpose and need for the proposed action. Potential impacts to resources were evaluated and described in Sections 4-1 through 4-18. Table 4-5 below provides a summary of the potential impacts to the evaluated resources associated with the Preferred Alternative, the HDD Alternative, and the No Action Alternative.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
Air Quality	The proposed action would be consistent with general air quality conformity rules and regulations, and would not result in adverse air quality impacts. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold; therefore, the impact would be less than significant.	The HDD Alternative would be consistent with the general air quality conformity rules and regulations, and would not result in adverse air quality impacts. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold; therefore, the impact would be less than significant.	Conditions would remain the same as described in Section 3.1. No impacts would occur.
Noise	Construction activities would result in temporary, short-term noise impacts at the Grace E. Simons Lodge and Dorris Place Elementary School. Additionally, construction noise levels may exceed the noise standards specific in Los Angeles Municipal Code Section 112.05. With implementation of mitigation measures N-1 through N-12, construction noise impacts would not be adverse.	Construction activities would result in temporary, short-term noise impacts at the Grace E. Simons Lodge and Dorris Place Elementary School. Additionally, construction noise levels may exceed the noise standards specific in Los Angeles Municipal Code Section 112.05. With implementation of mitigation measures N-1 through N-12, construction noise impacts would not be adverse.	Conditions would remain the same as described in Section 3.2. No impacts would occur.
Odor	Odors associated with construction activities would be temporary and short-term. No long term odor impacts would occur. Impacts related to odors would not adverse.	Odors associated with construction activities would be temporary and short-term. No long term odor impacts would occur. Impacts related to odors would not adverse.	Conditions would remain the same as described in Section 3.3. No impacts would occur.
Water Resources	With implementation of mitigation measure SR-1, impacts to water resources would not be adverse.	With implementation of Best Management Practices developed for the Stormwater Pollution Prevention Plan and the erosion control plan, impacts to water resources would not be adverse.	Conditions would remain the same as described in Section 3.4. No impacts would occur.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
Wetlands	The Los Angeles River is located adjacent to and north of the proposed recycled water pipeline alignment on the Los Angeles River Bike Path. However, all construction activities would occur within the existing bike path. As such, no direct impacts to wetlands would occur with implementation of the proposed action. Additionally, the proposed action does not include any crossings over jurisdictional wetlands. With implementation of Best Management Practices developed for the Stormwater Pollution Prevention Plan and the erosion control plan, as well as the Clean Water Act, short-term construction impacts to water resources would not be adverse.	The Los Angeles River is located adjacent to and north of the proposed recycled water pipeline alignment on the Los Angeles River Bike Path. However, all construction activities would occur within the existing bike path. As such, no direct impacts to wetlands would occur with implementation of the proposed action. Additionally, the proposed action does not include any crossings over jurisdictional wetlands. With implementation of Best Management Practices developed for the Stormwater Pollution Prevention Plan and the erosion control plan, as well as the Clean Water Act, short-term construction impacts to water resources would not be adverse.	Conditions would remain the same as described in Section 3.5. No impacts would occur.
Floodplains	The proposed action would not be located within a 100-year floodplain; therefore, no impacts would occur.	The proposed action would not be located within a 100-year floodplain; therefore, no impacts would occur.	Conditions would remain the same as described in Section 3.6. No impacts would occur.
Public Health and Safety	No active hazardous waste sites are located on or near the project site; thus, no impacts from hazardous waste sites would occur. Additionally, compliance with existing regulations would adequately mitigate the potential for release of hazardous materials to a less than significant level. No long-term operational impact related to the use or transport, or release of hazardous materials would occur.	No active hazardous waste sites are located on or near the project site; thus, no impacts from hazardous waste sites would occur. Additionally, compliance with existing regulations would adequately mitigate the potential for release of hazardous materials to a less than significant level. No long-term operational impact related to the use or transport, or release of hazardous materials would occur.	Conditions would remain the same as described in Section 3.7. No impacts would occur.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
Surface Resources	With implementation of mitigation measure SR-1,impacts to soil erosion during construction would be minimized to a less than significant level. Additionally, compliance with existing regulations would ensure that no adverse impacts related to geologic hazards occur.	With implementation of mitigation measure SR-1, impacts to soil erosion would be minimized less than significant level. Additionally, compliance with existing regulations would ensure that no adverse impacts related to geologic hazards occur.	Conditions would remain the same as described in Section 3.8. No impacts would occur.
Vegetation and Wildlife	No sensitive plants are expected to occur, nor were any sensitive plant species observed at the project site during the field surveys. Implementation of the proposed action would not result in impacts to sensitive plant species or vegetation communities. The project site contains mature trees and other vegetation that is suitable for use by migratory birds, which are protected under the Migratory Bird Treaty Act of 1918. Implementation of mitigation measure BIO-1 would ensure project compliance with the Migratory Bird Treaty Act. With implementation of the mitigation measure, no indirect adverse impacts to nesting migratory birds would occur.	No sensitive plants are expected to occur, nor were any sensitive plant species observed at the project site during the field surveys. Implementation of the proposed action would not result in impacts to sensitive plant species or vegetation communities. The project site contains mature trees and other vegetation that is suitable for use by migratory birds, which are protected under the Migratory Bird Treaty Act of 1918. Implementation of mitigation measure BIO-1 would ensure project compliance with the Migratory Bird Treaty Act. With implementation of the mitigation measure, no indirect adverse impacts to nesting migratory birds would occur.	Conditions would remain the same as described in Section 3.9. No impacts would occur.
Threatened and Endangered Species	Due to the presence of non-native, disturbed habitat, Greata's aster is unlikely to be found in the seed bank occurring on-site. Thus, no special-status plants are expected	Due to the presence of non-native, disturbed habitat, Greata's aster is unlikely to be found in the seed bank occurring on-site. Thus, no special-status plants are expected	Conditions would remain the same as described in Section 3.10. No impacts would occur.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
	to occur. No impacts to special status plant species would occur. Special-status bat species are not expected to occur due to the developed and disturbed nature of the project site. No impacts to special status wildlife would occur.	to occur. No impacts to special status plant species would occur. Special-status bat species are not expected to occur due to the developed and disturbed nature of the project site. No impacts to special status wildlife would occur.	
Cultural Resources and Historic Property	The proposed action could potentially impact prehistoric, historic, and Native American resources. Mitigation measures CR-1 through CR-6 would ensure that impacts to cultural resources and historic properties would not be adverse under NEPA and Section 106 of the National Historic Preservation Act.	The HDD Alternative could potentially impact prehistoric, historic, and Native American resources. Mitigation measures CR-1 through CR-6 would ensure that impacts to cultural resources and historic properties would not be adverse under NEPA and Section 106 of the National Historic Preservation Act.	Conditions would remain the same as described in Section 3.11. No impacts would occur.
Land Use and Infrastructure	The proposed action would be consistent with the General Plan designation, and would not divide an established community. No impacts related to land use and infrastructure would occur.	The HDD Alternative would be consistent with the General Plan designation, and would not divide an established community. No impacts related to land use and infrastructure would occur.	Conditions would remain the same as described in Section 3.12. No impacts would occur.
Aesthetics	With implementation of mitigation measures VIS-1 and VIS-2, the long-term operational impact related to placement of the new recycled water tank would not be adverse.	With implementation of mitigation measures VIS-1 and VIS-2, the long-term operational impact related to placement of the new recycled water tank would not be adverse.	Conditions would remain the same as described in Section 3.13. No impacts would occur.
Socioeconomics	Construction of the proposed action would result in an increase in short-term construction employment. No long-term employment would be generated from the proposed action. Therefore, no significant adverse impacts to socioeconomics	Construction of the HDD Alternative would result in an increase in short-term construction employment. No long-term employment would be generated from the HDD Alternative. Therefore, no significant adverse impacts to socioeconomics	Conditions would remain the same as described in Section 3.14. No impacts would occur.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
	would occur.	would occur.	
Waste Management	Compliance with existing regulations would ensure that use of hazardous materials would not pose a significant risk to the public or environment, and no adverse impacts related to hazardous wastes would occur. No solid waste would be generated with project operation. Compliance with existing regulations would ensure that the short-term construction impact related to solid waste disposal would not be adverse.	Compliance with existing regulations would ensure that use of hazardous materials would not pose a significant risk to the public or environment, and no adverse impacts related to hazardous wastes would occur. No solid waste would be generated with project operation under the HDD Alternative. Compliance with existing regulations would ensure that the short-term construction impact related to solid waste disposal would not be adverse.	Conditions would remain the same as described in Section 3.15. No impacts would occur.
Transportation	Traffic delays resulting from installation of the pipeline within a roadway block would be short-term and temporary. However, for the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary. Implementation of mitigation measures TR-1 and TR-2 would mitigate these impacts through development of a Traffic Management Plan and coordination with Caltrans to obtain permits for transport of oversized loads on State facilities, if necessary. With implementation of mitigation measures TR-1 and TR-2, short-term construction impacts related to transportation would not be	Traffic delays resulting from installation of the pipeline within a roadway block would be short-term and temporary. However, for the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary. Implementation of mitigation measures TR-1 and TR-2 would mitigate these impacts through development of a Traffic Management Plan and coordination with Caltrans to obtain permits for transport of oversized loads on State facilities, if necessary. With implementation of mitigation measures TR-1 and TR-2, short-term construction impacts related to transportation would not be	Conditions would remain the same as described in Section 3.16. No impacts would occur.

Table 4-5 Summary of Impacts for Evaluated Resources

Resource	Preferred Alternative (Alternative 1 – Proposed Action)	HDD Alternative (Alternative 2)	No Action Alternative
	adverse.	adverse.	
Energy	Operation of the proposed pumping stations would not require substantial energy loads. Therefore, no significant adverse impacts related to energy consumption would occur.	Operation of the proposed pumping stations would not require substantial energy loads. Therefore, no significant adverse impacts related to energy consumption would occur.	Conditions would remain the same as described in Section 3.17. No impacts would occur.
Environmental Justice	No direct or indirect, or short- or long-term impacts from construction or operation of the proposed action are anticipated to disproportionately affect low-income populations, minority populations, or children in the City or the surrounding area. No adverse impacts to these groups would occur.	No direct or indirect, or short- or long-term impacts from construction or operation of the HDD Alternative are anticipated to disproportionately affect low-income populations, minority populations, or children in the City or the surrounding area. No adverse impacts to these groups would occur.	Conditions would remain the same as described in Section 3.18. No impacts would occur.

4.21 Unavoidable Adverse Impacts

Proposed Action

Implementation of the proposed action would result in temporary, minor adverse environmental impacts related to construction noise, soil disturbance, migratory birds, and traffic disruption.

HDD Alternative

Implementation of the HDD Alternative would result in temporary, minor adverse environmental impacts related to construction noise, soil disturbance, migratory birds, and traffic disruption.

No Action Alternative

No unavoidable adverse impacts would be associated with the No Action Alternative.

4.22 Relationship of Short-Term and Long-Term Productivity

Proposed Action

In the short term, implementation of the proposed action would result in temporary, minor adverse environmental impacts related to construction noise, soil disturbance, migratory birds, and traffic disruption. Long-term effects of the proposed action would include an impact related to placement of the new recycled water storage tank, although this impact would not be adverse with mitigation. Additionally, in the long term, the proposed action would maximize the use of recycled water for non-potable uses and enhance water supply reliability for the City.

HDD Alternative

In the short term, implementation of the HDD Alternative would result in temporary, minor adverse environmental impacts related to construction noise, soil disturbance, migratory birds, and traffic disruption. Long-term effects of the HDD Alternative would include an impact related to placement of the new recycled water storage tank, although this impact would not be adverse with mitigation. Additionally, in the long term, the HDD Alternative would maximize the use of recycled water for non-potable uses and enhance water supply reliability for the City.

No Action Alternative

Under the No Action Alternative, the proposed action would not be constructed and conditions would remain as they are currently. As such, the No Action Alternative would not result in short- or long-term adverse impacts.

4.23 Irreversible and Irretrievable Commitments

Construction of the proposed action would require consumption of resources that are not replenishable or which may renew slowly as to be considered non-renewable. These resources would include certain types of lumber, aggregate materials used in concrete and asphalt (e.g., sand, gravel, and stone), and metals. Fossil fuels, such as gasoline and oil, would also be consumed in the use of construction vehicles and equipment. The commitment of resources required would limit the availability of these resources for future generations. However, the type and nature of construction associated with the proposed action would only require limited quantities of materials, as the proposed action does not include an operational component. Further, this resource consumption would be consistent with growth and anticipated change in the City of Los Angeles and the southern California region.

4.24 Conclusion

This EID has been prepared in accordance with NEPA requirements. The EID reviews potential impacts of installing the proposed recycled and potable water pipelines, recycled and non-potable water pumping stations, and forebay and recycled water storage tanks within Elysian Park and the Elysian Valley neighborhood within the City of Los Angeles, on environmental resources and concludes that, with mitigation incorporated, there are no significant adverse impacts on the environment resulting from the implementation of the proposed action.

SECTION 5
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SECTION 6
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APPENDIX A

BIOLOGICAL RECONNAISSANCE SURVEY REPORT

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April 25, 2013

Ms. Irene Paul
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Subject: 2012 and 2013 Biological Reconnaissance Survey and Constraints Analysis for the Elysian Park Water Recycling Project, City of Los Angeles, California

Dear Ms. Paul,

This letter report summarizes the results of biological reconnaissance surveys conducted by AECOM in support of the Elysian Park Water Recycling Project (WRP), located in the northern and central portions of Elysian Park, in the City of Los Angeles, California, on May 10, 2012 and April 25, 2013.

PROJECT LOCATION

The project site is located in the City of Los Angeles within Elysian Park, which is located approximately 1.5 miles north of downtown Los Angeles. Elysian Park is bound by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Access to Elysian Park is provided via Stadium Way, Academy Road, and Solano Avenue. It is located within the United States Geological Survey (USGS) Los Angeles, California 7.5-minute topographic quadrangle map. Topography on the site includes a relatively flat reservoir basin, surrounded by steep slopes. Elevation of the project site ranges from approximately 320 to 800 feet above mean sea level.

PROJECT DESCRIPTION

The proposed project involves the delivery of recycled water to Elysian Park (Figure 1). A new 16-inch recycled water pipeline would be constructed from the existing recycled water pipeline serving Taylor Yard (Taylor Yard WRP), totaling approximately 10,800 linear feet. The proposed Elysian Park recycled water pipeline would connect to a new approximately 2 million gallon recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a new recycled water pumping station located near the west side of I-5 just inside Elysian Park. The proposed route for the recycled water pipeline would roughly follow Stadium Way. In addition, to provide for the potable water uses within Elysian Park (e.g., restrooms and drinking fountains), approximately 1,000 linear feet of 8-inch potable water pipeline would be constructed from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of a 2-inch potable water service line with a booster pump would also be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields.

METHODS

Literature Review

A literature review was conducted in 2012 and 2013 to determine sensitive plant species, animal species, and vegetation communities with the potential to occur in the project site. The California Natural Diversity DataBase (CNDDB) RareFind 3 program (2012 and 2013) and the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (2010) were reviewed for any information on known occurrences of sensitive species and communities within the Los Angeles and Hollywood USGS topographic quadrangles. Based on the literature review, 18 sensitive plant species and 11 wildlife species were identified as having the potential to occur in the vicinity of the project. Sensitive plant and wildlife species are listed in Enclosure 2. Three sensitive plant communities were also identified as having the potential to occur in the vicinity of the project site: California Walnut Woodland, Southern Sycamore Alder Riparian Woodland, and Walnut Forest.

Field Survey

On April 25, 2013, AECOM (Ms. Erin Bergman and Ms. Cristina Lowery) conducted a botanical assessment of the proposed route for the potable water pipeline. On April 25, 2013, weather conditions consisted of clear skies and temperatures ranging from 68 to 75 degrees Fahrenheit. Wind speeds ranged for 1 to 3 mph.

On May 10, 2012, AECOM (Ms. Donna Germann and Ms. Cristina Lowery) conducted a wildlife survey of the proposed route for the recycled water pipeline, the portion of the potable water pipeline alignment that would run from the potable water booster pump and generally northwest past Grace E. Simons Lodge to Park Drive, the proposed location for the proposed new 30,000 gallon forebay tank, the proposed new recycled and non-potable water pumping stations, and the proposed location for the new recycled water storage tank. On May 10, 2012 weather conditions consisted of clear skies with temperatures ranging from 65 to 73 degrees Fahrenheit. Winds were northwesterly and ranged from 1 to 4 mph.

The project site was evaluated for habitat suitable for the sensitive species identified in the literature review, as well as for protected trees and potential nesting habitat for migratory birds. Observed plants and wildlife were recorded, however, focused surveys for particular plants and animals were not conducted at this time.

RESULTS

Literature Review

Plants

Sensitivity status, general habitat requirements, and potential habitat presence or absence within the project site for the species identified during the literature review are provided in Enclosure 2. Only one sensitive plant is reported to have occurred in Elysian Park, Greata's aster (*Symphyotrichum greatae*). The source of the reported occurrence is a collection from 1932, mapped as a best guess to be in the Elysian Park area. In addition to individual species, the following sensitive plant communities are reported from the project vicinity: California walnut woodland, southern sycamore alder riparian woodland, and walnut forest. No sensitive plant communities are reported to have occurred in Elysian Park.

Wildlife

No sensitive wildlife are known to occur within Elysian Park.

Elysian Park is not within any Significant Ecological Areas or designated Critical Habitat.

Field Survey: Habitat

The field survey areas consisted of the proposed route for the recycled water pipeline and potable water pipeline, the proposed location for the recycled and non-potable water pumping stations and the 30,000 gallon forebay tank, the proposed location for the potable water booster pump, and the proposed location for the new recycled water storage tank.

Proposed Recycled Water and Potable Water Pipeline Alignments

The proposed alignment for the recycled water pipeline would roughly follow Riverdale Avenue, Blake Avenue, Dorris Place, Stadium Way, and Angels Point Road (Figure 1). The recycled water pipeline alignment would diverge from Angels Point Road at a hilltop near Elysian Fields. Discussion of the hilltop habitat is provided below under "Proposed Location for the Recycled Water Storage Tank."

The proposed route for the potable water pipeline would roughly follow Elysian Park Drive and existing hiking trails southeast of Park Drive, cross Stadium Way, travel directly up the hillside to Angels Point Road, and roughly follow Angels Point Road and Park Road to Elysian Fields (Figure 1). Stadium Way, Angels Point road, Park Road, Elysian Park Drive, and Dorris Place are paved roads (Enclosure 1, Photos 1-4). Between Park Drive and Elysian Park Drive, the potable pipeline would follow existing hiking trails (Enclosure 1, Photo 5).

Native species adjacent to the proposed recycled water and potable water pipeline routes include: laurel sumac (*Malosma laurina*), western sycamore (*Plantanus racemosa*), blue elderberry (*Sambucus Mexicana*), native coast live oak (*Quercus agrifolia*), wild cucumber (*Marah* sp.), holly-leafed cherry (*Prunus ilicifolia*), lemonade berry (*Rhus integrifolia*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), southern California black walnut (*Juglans californica*), black walnut (*Juglans nigra*), California sagebrush (*Artemisia californica*), Botta's Clarkia (*Clarkia bottae*), mulefat (*Baccharis salicifolia*), awestern ragweed (*Ambrosia psilostachya*), chaparral whitethorn (*Ceanothus leucodermis*), and pine trees (*Pinus* sp.).

Ornamental and non-native species observed adjacent to the proposed recycled water pipeline route include Peruvian peppertree (*Schinus molle*), Brazilian peppertree (*Schinus terebinthifolius*), mousehole tree (*Myoporum laetum*), bird of paradise (*Strelitzia* sp.), bottle brush tree (*Callistemon* sp.), juniper (*Juniperus* sp.), eucalyptus species (*Eucalyptus* sp.), Russian thistle (*Salsola kali*), tree tobacco (*Nicotiana glauca*), cape leadwort (*Plumbago capensis*), spiny holdback (*Caesalpinia spinosa*), summer lilac (*Buddleya davidii*), cotoneaster (*Cotoneaster* sp.), acacia species (*Acacia* sp.), tree of heaven (*Ailanthus altissima*), tree tobacco (*Nicotiana glauca*), black mustard (*Brassica nigra*), castor bean (*Ricinus communis*), a variety of palm species (*Washingtonia* sp. and *Phoenix* sp.), and a variety of non-native grasses and annuals.

As a portion of the potable water pipeline would be trenched up the vegetated hillside southeast of Stadium Way, a botanical survey of this area was conducted on April 25, 2013. The vegetation communities surveyed at Elysian park in 2013 consist of three different vegetation types which include non-native grassland, eucalyptus woodland, and ornamental vegetation (Figure 2). These vegetation types and dominant plant species found within them are described below.

<u>Non-Native Grassland</u>

According to the modified Holland classification system (Oberbauer et al. 2008), non-native vegetation consists of a dense or sparse cover of annual grasses with flowering culms that range from 0.2 to 1 meter in height. These can be associated with flowers when rainfall events are favorable.

Dominant Plant Species

Approximately one fourth of the vegetation within the BSA consists of non-native grassland. Dominant species found within this community include rip-gut brome (*Bromus diandrus*), short-pod mustard (*Hirshfeldia incana*), field mustard (*Brassica rapa*), mouse barley (*Hordeum murinum*), wild oats (*Avena fatua*), toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* var. *caerulea*), sow thistle (*Sonchus oleraceus*), Sydney golden wattle (*Acacia longifolia*), black mustard (*Brassica nigra*), sticky bed-straw (*Galium aparine*) and poison oak (*Toxicodendron diversilobum*).

<u>Eucalyptus Woodland</u>

According to the modified Holland classification system, eucalyptus habitats vary from a single species thicket to a mixed species thicket with little or no shrubby understory. Eucalyptus thickets can also consist of scattered trees with a well developed herbaceous or shrubby understory. In many instances, eucalyptus forms a dense stand with a closed canopy. Eucalyptus species generate a large amount of leaf litter which has chemical characteristics that limit the growth of other species in the understory. Therefore, eucalyptus woodland can limit the floral diversity. Few native overstory species are present within eucalyptus woodland.

Dominant Plant Species

Approximately half of the vegetation within the BSA consisted of eucalyptus woodland. Dominant species include red river gum (*Eucalyptus camaldulensis*), manna gum (*Eucalyptus viminalis*), iron bark (*Eucalyptus sideroxylon*), flooded gum (*Eucalyptus rudis*) and eucalyptus (*Eucalyptus* sp.), rip-gut brome, short-pod mustard, field mustard, mouse barley, wild oats, toyon, sow thistle, Sydney golden wattle, black mustard, sticky bedstraw and poison oak.

Ornamental Vegetation/Disturbed Habitat

According to the modified Holland classification system, ornamental vegetation/disturbed habitat consists of areas that have been physically disturbed and no longer consist of a native vegetation association. These areas continue to retain soil substrate. Vegetation that is found within these areas includes ornamental species or exotic species that take advantage of areas that have been disturbed.

Dominant Plant Species

Approximately one fourth of the BSA consists of ornamental/disturbed habitat. Dominant species include Sydney golden wattle, aleppo pine (*Pinus halepensis*), Canary island pine (*Pinus canariensis*) Peruvian pepper tree (*Shinus molle*), black mustard, poison oak, rip-gut brome and blue elderberry.

Proposed Location for the Recycled and Non-Potable Water Pumping Stations and 30,000 Gallon Forebay Tank

The proposed location for the new recycled and non-potable water pumping stations, and the 30,000 gallon forebay tank is a paved and bare area immediately southwest of the I-5, directly across from Dorris Place (Enclosure 1, Photo 7). The proposed location can be accessed via a paved road east of Stadium Way. The paved road is secured with a locked gate. An existing pumping station, which would be removed as part of the project, is located immediately northwest of the proposed location for these three facilities (Enclosure 1, Photo 8).

Vegetation surrounding the proposed recycled water pumping station location is heavily disturbed and dominated by non-native species. Species present include: pine, eucalyptus, poison oak, mulefat, castor bean, douglas' nightshade (Solanum douglasii), and a variety of non-native grasses and annuals. Pine trees also occur in the vicinity of the proposed location.

Proposed Location for the Recycled Water Storage Tank

The hilltop near Elysian Fields is located immediately north of Angels Point Road and is proposed for placement of the new approximately 2 million gallon recycled water storage tank. An existing water tank is present on the hilltop which is sloped and characterized by native, ornamental, and disturbed vegetation (Enclosure 1, Photo 9). The proposed recycled water pipeline would diverge from Angels Point Road southwest of the hilltop and bisect the hilltop to connect with the proposed recycled water storage tank (Enclosure 1, Photo 10).

Native species in the hilltop area and vicinity include: blue elderberry, toyon, southern California black walnut, chaparral whitethorn, laurel sumac, and poison oak. Ornamental and non-native species include: Russian thistle, *Acacia* species, tree of heaven, *Washingtonia* palm species, tree tobacco, black mustard, western ragweed, eucalyptus, and a variety of non-native grasses and annuals.

Field Survey: Wildlife

Urban park settings provide habitat for common wildlife species typically adapted to disturbed areas and human presence. Native and disturbed habitat and ornamental vegetation found adjacent to the proposed route for the recycled water pipeline and potable water pipeline and within the proposed locations for the potable water pumping station, recycled water pumping station, and new potable and recycled water tanks provides habitat for a variety of nesting birds and potential habitat for certain species of roosting bats.

Twelve species of bird were observed on site during the reconnaissance survey performed in 2012 and are typically associated with such urban park settings. These species include black phoebe (*Sayornis nigricans*), kingbird (*Tyrannus* sp.), phainopepla (*Phainopepla* nitens), common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculates*), California towhee (*Pipilo crissalis*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), western-scrub jay (*Aphelocoma californica*). Additionally, a red-tailed hawk (*Buteo jamaicensis*) was detected in the project vicinity.

Wildlife Corridors and Habitat Linkages

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors are defined as those linking two or more large areas of natural open space, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development.

Wildlife migration corridors are essential, especially in urban settings, for the sustenance of healthy and genetically diverse animal communities. At a minimum, they promote colonization of habitat and genetic variability by connecting fragments of like habitat, and they help sustain individual species distributed in and among habitat fragments. Habitat fragments, by definition, are separated by otherwise foreign or inhospitable habitats, such as urban/suburban tracts. Isolation of populations can have many harmful effects and may contribute significantly to local species extinction.

A viable wildlife migration corridor consists of more than a path between habitat areas. To provide food and cover for transient species, as well as resident populations of less mobile animals, a wildlife migration corridor must also include pockets of vegetation.

There are no adjacent large open space areas bordering Elysian Park. Several noncontiguous open spaces support suitable habitat for a variety of wildlife near Elysian Park, including: Mt. Washington (1 mile northeast), Arroyo Seco Park (2 miles northeast), Topanga State Park (16 miles west), Angeles National Forest (10 miles north), Griffith Park (5 miles northwest), and Echo Park (less than 1 mile west). Elysian Park is not part of a major contiguous linkage between two or more large areas of open space, and thus does not serve as a regional wildlife corridor.

The project site provides suitable nesting habitat for migratory and resident bird populations. In addition, due to the location of the project site within Elysian Park, the project site and surrounding portions of Elysian Park provides areas of open space for local terrestrial wildlife migration. As such, the project site serves as a local wildlife corridor.

RECOMMENDATIONS

Sensitive Plants

The survey areas are developed, disturbed, or consist of non-native habitat and do not present quality habitat for sensitive plant species. As addressed above, Greata's aster is reported to have occurred in Elysian Park in 1932. It was not found in the 2013 survey based upon additional subsequent development in the area and vegetation habitat type conversion(s). Additionally, due to the presence of non-native disturbed habitats in the BSA, Greata's aster is unlikely to be found in the seed bank occurring on-site. No sensitive plants are expected to occur, nor were any sensitive plants observed during general surveys by AECOM in 2012 or 2013. No surveys for sensitive plants are recommended.

Protected Trees

The City of Los Angeles (City), Department of Recreation and Parks (RAP) Urban Forest Program provides direction for the care of trees within City parkland. RAP recognizes and implements regulatory procedures for trees specified in the Tree Preservation Policy. The Tree Preservation Policy regulates protection of trees in four categories: Trees Protected by LA City Ordinances, Heritage Trees, Special Habitat Value Trees, and all other Common Park Trees. The Urban Forest Program *Tree Care Manual* (2004) describes all regulations, standards, and specifications for implementation of the Tree Preservation Policy. Pruning of park trees must adhere to the recommendations described in section 3.10 of the Urban Forest Program *Tree Care Manual*. The Tree Removal Procedure (Appendix J of the Urban Forest Program *Tree Care Manual*) must be followed for the removal of any park trees.

Coast live oaks occur adjacent to and overhanging the proposed route for the potable and recycled water pipeline alignments and should be avoided (Figure 2). Trimming should not occur and if it is requested, a certified arborist should monitor all work done to accommodate construction vehicles or equipment. Oak trees are protected from removal by the City of Los Angeles Native Tree Protection Ordinance (Los Angeles Municipal Code Section 17.05.R), enforced by the Los Angeles Department of Public Works Bureau of Street Services. For pruning of trees protected by the Ordinance (branches larger than 2 inches in diameter), the RAP requires a permit from the Board of Public Works (Urban Forest Program *Tree Care Manual*, Section 3.10). Any permitted pruning must be done in compliance with the Oak Tree Pruning Standards set forth by the Western Chapter of the International Society of Arboriculture (e.g, ANSI A300 tree care standards).

California sycamores, southern California walnut, California bay, and toyon are present in outlying areas throughout the survey areas. These species occur adjacent to, and may overhang, the proposed route for the recycled and potable water pipeline alignments. Blue elderberry and toyon are intermixed with the ornamental vegetation community; individual specimens may require trimming to accommodate construction vehicles and equipment or trimming may be required for installation of the pipeline. These species are considered Special Habitat Value Trees and are protected under the Native Tree Protection Ordinance. Before any alterations (damage, relocation, or removal) to Special Habitat Value Trees, a recommendation for action must be obtained from RAP Arborists. The recommendation must be approved by the General Manager of RAP or his/her designee before any action proceeds. Furthermore, all actions relating to pruning or removing blue elderberry or toyon (growth habitat form within BSA) must comply with all relevant components of RAP's Urban Forest Program *Tree Care Manual*. Replacement of removed trees in accordance with Los Angeles City Landscape Policy (Urban Forest Program *Tree Care Manual*, Appendix M) is also required.

No Heritage Trees would be affected by the proposed project.

RAP regulates protection of mature exotic park trees, referred to as Common Park Trees, under the Tree Preservation Policy. Common Park Trees may be removed with the recommendation of the Forestry Arborist.

Sensitive Plant Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or particularly high wildlife value or provide habitat to rare or endangered species (CNDDB 2012). The survey areas did not contain any sensitive vegetation communities.

Sensitive Wildlife

Bats

Trees and palms through the survey area provide marginally suitable roosting habitat for hoary bats (*Lasiurus cinereus*). However, the probability for sensitive species of bat to occur on site is low to not expected. No surveys for roosting bats are warranted.

Migratory Birds

The Migratory Bird Treaty Act of 1918, as amended in 1972, makes it unlawful, unless permitted by regulations, to "pursue; hunt; take; capture; kill; attempt to take, capture or kill; possess; offer for sale; sell; offer to purchase; purchase; deliver for shipment; ship; cause to be shipped; deliver for transportation; transport; cause to be transported; carry or cause to be carried by any means whatever; receive for shipment, transportation, or carriage; or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention …for the protection of migratory birds … or any part, nest, or egg of any such bird" (16 USC 703). In 1972, the Migratory Bird Treaty Act was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: *Accipitridae* (kites, hawks, and eagles); *Cathartidae* (New World vultures); *Falconidae* (falcons and caracaras); *Pandionidae* (ospreys); *Strigidae* (typical owls); and *Tytonidae* (barn owls).

The project site and adjacent areas contain mature trees and other vegetation that is suitable for use by migratory birds. Should construction activities or vegetation trimming at the project site occur during the breeding season for migratory non-game native bird species (generally considered to be between February 15 and September 15, depending on seasonal conditions), it is recommended that nesting bird surveys be conducted in order to detect any protected native birds nesting within the construction work area. Surveys should be conducted weekly, beginning no earlier than 30 days and ending no later than 3 days prior to the commencement of disturbance. If an active nest is discovered, disturbance within a particular buffer should be prohibited until nesting is complete; the buffer distance should be determined by the biological monitor in consideration of species sensitivity and existing nest site conditions. Limits of avoidance should be demarcated with flagging or fencing. Once a flagged nest is determined to be no longer active, the biological monitor would remove all flagging and allow construction activities to proceed. The surveys and actions described above will assure compliance with the Migratory Bird Treaty Act of 1918.

Sincerely,

Erin Bergman and Donna Germann,
Biologist Biologist
Erin.Bergman@aecom.com Donna.Germann@aecom.com

Figure A: Elysian Park Water Recycling Project Preferred Sites and Routes
Figure B: Vegetation Community Map-Portion of Potable Water Pipeline Alignment
Enclosures: 1. Photos of the Survey Area
2. Federally-listed, State-listed, and Species of Special Concern with Potential to Occur in the Study Area

REFERENCES

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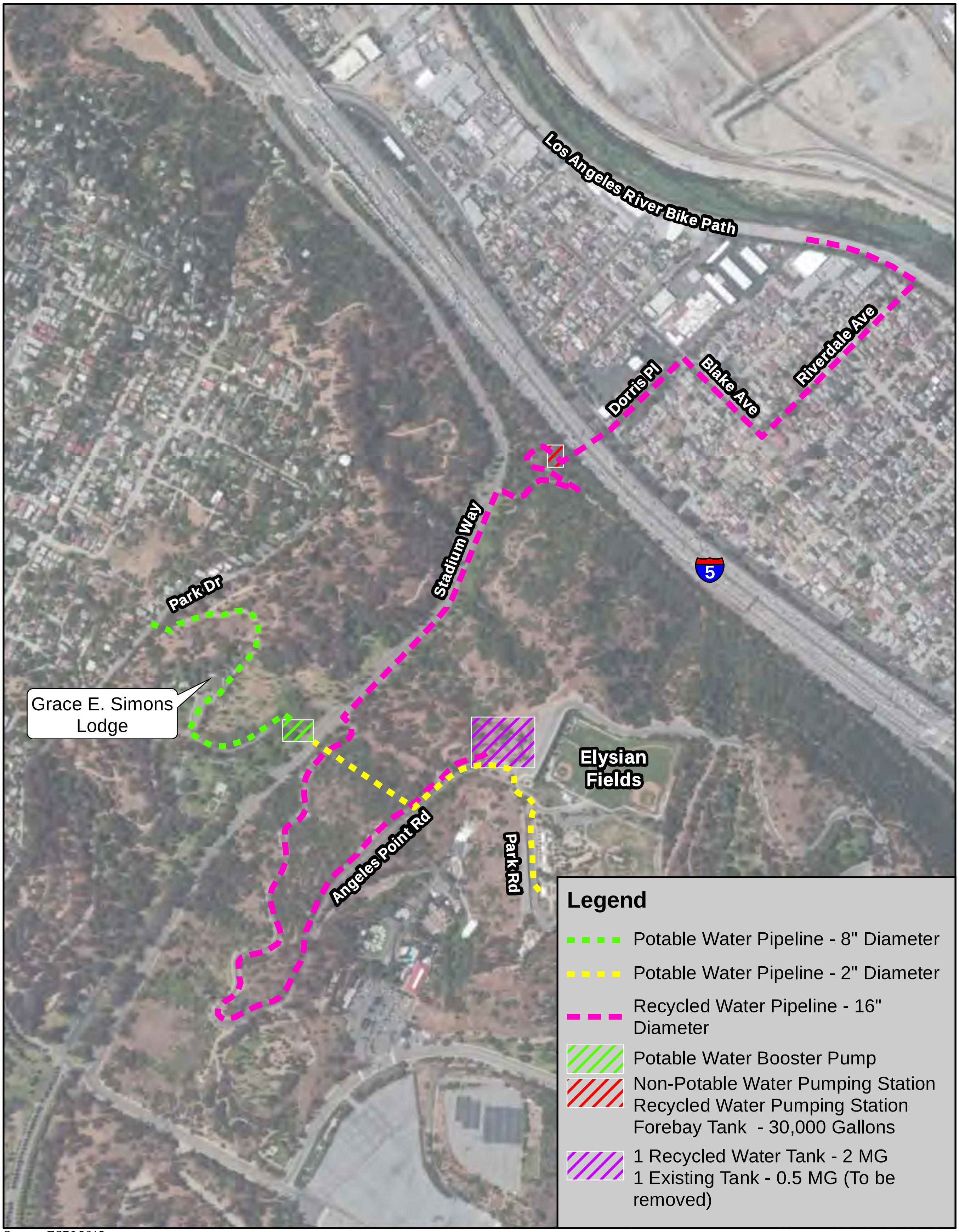

Source: ESRI 2012

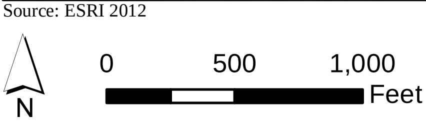

Figure 1

Preferred Sites and Routes

Source: AECOM 2013; Microsoft 2013

N

150 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 2

Vegetation Communities

Enclosure 1

PHOTOS
OF THE SURVEY AREA

Photo 1. Photo of proposed potable and recycled water pipelines route and surrounding vegetation along Angels Point Road. Photo facing north.

Photo 2. Photo of proposed recycled water pipeline route between Stadium Way and the proposed location for a new recycled water pumping station. Photo facing east.

Photo 3. Photo of recycled water pipeline route along Dorris Street. Photo facing northeast.

Photo 4. Photo of proposed potable water pipeline route and surrounding vegetation between Elysian Park Drive and hiking trails west of Park Drive. Photo facing north.

Photo 5. Photo of proposed potable water pipeline route, within an existing compact hiking trail, between Park Drive and paved roads adjacent to Grace E. Simons Lodge and Elysian Park Drive. Photo facing west.

Photo 6. Photo of the proposed site for the new potable water pumping station near the Grace E. Simons Lodge. Photo facing southwest.

Photo 7. The proposed location for the new recycled water pumping station is a bare area immediately southwest of the Golden State Freeway, directly across from Dorris Place. Photo facing east.

Photo 8. Existing electrical boxes and utilities are located immediately northwest of the proposed recycled water pumping station location. Photo facing north.

Photo 9. Photo depicting the existing water tank and surrounding habitat on the hilltop by Elysian Fields. Photo facing north.

Photo 10. Photo depicting the approximate location where the proposed recycled and potable water pipelines would diverge from Angels Point Road bisect the hill and surrounding vegetation to connect with the proposed water tanks. Photo facing northeast.

Enclosure 1. Federally-listed, State-listed, and Species of Special Concern with Potential to Occur in the Survey Area

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Survey Area
Plants			
marsh sandwort *Arenaria paludicola*	USFWS: FE CDFG: SE CNPS: List 1B.1	Found in marshes and swamps. Elevation 10-170 meters. Blooms May-August.	Not Expected. The Survey Area does not contain suitable habitat for this species. The only reported occurrence in the vicinity of the Survey Area was in 1900 in the community of Cienega.
Braunton's milk-vetch *Astragalus brauntonii*	USFWS: FE CDFG: None CNPS: List 1B.1	Found in recently burned or disturbed areas; in stiff gravelly clay soils overlying granite or limestone. Associated with closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland. Elevation 4-640 meters. Blooms January-August.	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species has not been reported in the vicinity of the Survey Area for 100 years. The last reported occurrences of Braunton's milk-vetch in the vicinity of the Survey Area were in 1908 in the foothills above West Hollywood (now presumed extirpated), and a possible collection in the vicinity of Cienega in 1904.
coastal dunes milk-vetch *Astragalus tener* var. *titi*	USFWS: FE CDFG: SE CNPS: List 1B.1	Found in moist, sandy depressions or bluffs or dunes along and near the Pacific ocean. Associated with coastal bluff scrub, coastal dunes. Elevation 1-50 meters. Blooms March-May.	Not Expected. The Survey Area does not contain suitable habitat for this species.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	USFWS: None CDFG: None CNPS: List 1B.2	Found in alkaline soils. Associated with coastal bluff scrub and coastal scrub. Elevation 3-250 meters. Blooms April-October.	Not Expected. The Survey Area does not contain suitable habitat for this species.
round-leaved filaree *California macrophylla*	USFWS: None CDFG: None CNPS: List 1B.1	Found in clay soils. Associated with cismontane woodland and valley and foothill grassland. Elevation 15-1,200 meters. Blooms March-May.	Not Expected. The Survey Area does not contain suitable habitat for this species.

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Survey Area
Plummer's mariposa lily *Calochortus plummerae*	USFWS: None CDFG: None CNPS: List 1B.2	Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Associated with coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. Elevation 90-1,610 meters. Blooms May-July.	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species was not detected during general surveys which coincided with its blooming period and it has not been reported in the vicinity of the Survey Area for almost 100 years. The last reported occurrences of Plummer's mariposa lily in the vicinity of the Survey Area were in 1913 on Poppy Peak in Garvanza, and in 1901 in the hills above West Hollywood.
Plummer's mariposa lily *Calochortus plummerae*	USFWS: None CDFG: None CNPS: List 1B.2	Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Associated with coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. Elevation 90-1,610 meters. Blooms May-July.	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species was not detected during general surveys which coincided with its blooming period and it has not been reported in the vicinity of the Survey Area for almost 100 years. The last reported occurrences of Plummer's mariposa lily in the vicinity of the Survey Area were in 1913 on Poppy Peak in Garvanza, and in 1901 in the hills above West Hollywood.
Santa Barbara morning-glory *Calystegia sepium* ssp. *Binghamiae*	USFWS: None CDFG: None CNPS: 1A	Found on dry, rocky open slopes and rock outcrops. Associated with coastal marshes. Elevation 0-30 meters. Blooms April-May.	Not Expected. The Survey Area does not contain suitable habitat for this species.
southern tarplant *Centromadia parryi* ssp. *australis*	USFWS: None CDFG: None CNPS: 1B.1	Often found in disturbed sites near the coast at marsh edges; also in alkaline soils, sometimes with saltgrass. Associated with marshes and swamps (margins), valley and foothill grassland. Elevation 0-30 meters. Blooms May-November.	Not Expected. The Survey Area does not contain suitable habitat for this species.
many-stemmed dudleya *Dudleya multicaulis*	USFWS: None CDFG: None CNPS: 1B.2	Found in heavy, often clayey soils or grassy slopes. Associated with chaparral, coastal scrub, and valley and foothill grassland. Elevation 0-790 meters. Blooms April-July.	Not Expected. The Survey Area does not contain suitable habitat for this species.

Common Name ***Scientific Name***	**Sensitivity Status**	**General Habitat Description**	**Potential to Occur in the Survey Area**
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	USFWS: None CDFG: None CNPS: 1A	Known from both coastal salt and freshwater marshes and swamps.	Not Expected. The Survey Area does not contain suitable habitat for this species.
mesa horkelia *Horkelia cuneata* ssp. *puberula*	USFWS: None CDFG: None CNPS: List 1B.1	Found on sandy or gravelly sites. Associated with chaparral, cismontane woodland, and coastal scrub. Elevation 70-810 meters. Blooms February-July (September).	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species was not detected during general surveys which coincided with its blooming period and it has not been reported in the vicinity of the Survey Area for 90 years. The last reported occurrences of mesa horkelia in the vicinity of the Survey Area were in 1902 in Garvanza, and in 1918 in Griffith Park.
Orcutt's linanthus *Linanthus orcuttii*	USFWS: None CDFG: None CNPS: List 1.B3	Sometimes found in disturbed areas, often in gravelly clearings. Associated with chaparral, lower montane coniferous forest. Elevation 1,060-2,000 meters. Blooms May-June.	Not Expected. The Survey Area does not contain suitable habitat for this species.
Gambel's water cress *Nasturtium gambelii*	USFWS: Endangered CDFG: Threatened CNPS: List 1B.1	Found in freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Associated with marshes and swamps. Elevation 5-1305 meters.	Not Expected. The Survey Area does not contain suitable habitat for this species.
prostrate vernal pool navarretia *Navarretia prostrata*	USFWS: None CDFG: None CNPS: List 1B.1	Found in alkaline soils in grassland, or in vernal pools; mesic alkaline sites. Associated with coastal scrub, valley and foothill grassland, vernal pools. Elevation 15-700 meters. Blooms April-July.	Not Expected. The Survey Area does not contain suitable habitat for this species.
white rabbit-tobacco *Pseudognaphalium leucocephalum*	USFWS: None CDFG: None CNPS: List 2.2	Found in sandy, gravelly sites. Associated with riparian woodland, cismontane woodland, coastal scrub, chaparral. Elevation 0-2,100 meters. Blooms (July) August-November (December).	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species was not detected during general surveys and it has not been reported in the vicinity of the Survey Area for more than 80 years. The last reported occurrence of white rabbit-tobacco in the vicinity of the Survey Area was in 1925 in the general area of Pasadena.

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Survey Area
Parish's gooseberry *Ribes divaricatum* var. *parishii*	USFWS: None CDFG: None CNPS: List 1.A	Found in willow swales in riparian habitats. Associated with riparian woodland. Elevation 65-100 meters. Blooms February-April.	Not Expected. The Survey Area does not contain suitable habitat for this species.
San Bernardino aster *Symphyotrichum defoliatum*	USFWS: None CDFG: None CNPS: 1B.2	Found in vernally mesic grassland or near ditches, streams and springs. Also found in disturbed areas. Associated with meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, and grassland. Elevation 2-2,040 meters. Blooms July-November.	Not Expected. The Survey Area does not contain suitable habitat for this species.
Greata's aster *Symphyotrichum greatae*	USFWS: None CDFG: None CNPS: 1B.3	Found in mesic canyons. Associated with chaparral and cismontane woodland. Elevation 800-1,500 meters. Blooms June-October.	Not Expected. The hilltop contains marginally suitable habitat for this species, however, the species was not detected during general surveys which coincided with its blooming period, and it has not been reported in the vicinity of the Survey Area for more than 75 years. The last reported occurrences of Greata's aster in the vicinity of the Survey Area were in 1902 in Arroyo Seco, near Garvanza, and in 1932 in Elysian Park.
Wildlife			
Insects			
Buck's gallmoth *Carolella busckana*	USFWS: None CDFG: None	Unknown	Not Expected. Very little is known about this species' habitat requirements; the only reported occurrence(extirpated in 1939) of Buck's gall moth occurred in Beverly Hills, 7 miles west of Elysian Park.
Reptiles			
coast (San Diego) horned lizard *Phrynosoma coronatum blainvillii*	USFWS: None CDFG: CSC	A variety of habitats including sage scrub, chaparral, and coniferous and broad-leafed woodlands. Most common in lowlands along sandy washes with scattered low bushes. Requires abundand supply of ants and other insects, open areas, bushes, and fine loose soil.	Not Expected. The Survey Area does not contain suitable habitat for this species.

Common Name ***Scientific Name***	**Sensitivity Status**	**General Habitat Description**	**Potential to Occur in the Survey Area**
Birds			
burrowing owl *Athene cunicularia*	USFWS: None CDFG: CSC	A subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. Prefers open, dry annual, or perennial grasslands, deserts and scrublands with low-growing vegetation.	Not Expected. The Survey Area does not contain suitable habitat for this species.
southwestern willow flycatcher *Empidonax traillii extimus*	USFWS: FE CDFG: SE	Utilizes riparian woodlands in southern California	Not Expected. The Survey Area does not contain suitable habitat for this species.
coastal California gnatcatcher *Polioptila californica californica*	USFWS: FT CDFG: CSC	A permanent resident of coastal sage scrub in arid washes, mesas, and slopes.	Not Expected. The Survey Area does not contain suitable habitat for this species.
Mammals			
pallid bat *Antrozous pallidus*	USFWS: None CDFG: CSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low. The Survey Area does not contain rocky habitat suitable habitat for this species. The surrounding area contains potentially suitable habitat, however it is severely reduced, and the only reported occurrences in the vicinity of the project was 1951 or earlier in the vicinities of San Dimas and Glendora, approximately 1.0 mile south and 4.0 miles west of the Survey Area, respectively.
western mastiff bat *Eumops perotis californicus*	USFWS: None CDFG: CSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Primarily a cliff-dwelling species, but also known to roost in high buildings, trees, and tunnels. Roost locations are generally high above the ground, providing a 3m minimum clearance below the entrance for flight. Requires large open-water drinking sites.	Low. The Trees and palms within the survey Area provide potentially suitable habitat. However, no cliffs are present and the only reported occurrences in the vicinity of the project were from 1958 or earlier in the vicinities of La Vern and Glendora, approximately 1.5 miles southeast and 2.0 miles northwest of the Survey Area, respectively.

Common Name ***Scientific Name***	**Sensitivity Status**	**General Habitat Description**	**Potential to Occur in the Survey Area**
hoary bat *Lasiurus cinereus*	USFWS: None CDFG: CSC	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees, and have been found in trees in dense forests, open wooded areas, and urban parks. Feeds primarily on moths. Requires water.	Low: Trees within the Survey Area provide potentially suitable roosting habitat. The only known occurrences of this species in the vicinity were from 1992, 1977, and 1942 approximately 3 miles northwest, 2 miles northwest, and 1.5 miles south of the Survey Area, respectively.
south coast marsh vole *Microtus californicus stephensi*	USFWS: None CDFG: CSC	Inhabits tidal marshes.	Not Expected. The Survey Area does not contain suitable habitat for this species.
big free-tailed bat *Nycinomops macrotis*	USFWS: None CDFG: CSC	Low-lying arid areas in southern California; need high cliffs or rocky outcrops for roosting sites; feeds principally on large moths	Not Expected. The Survey Area does not contain suitable habitat for this species.
American badger *Taxidea taxus*	USFWS: None CDFG: CSC	Inhabits dry open stages of most shrub, forest, and herbaceous habitats; requires sufficient food source, friable soils and open, uncultivated ground.	Not Expected. The Survey Area does not contain suitable habitat for this species.

[1]Federal U.S. Fish and Wildlife Service (USFWS):
Federally Threatened (FT), Federally Endangered (FE)
U.S. Forest Service (USFS): Sensitive

State California Department of Fish and Game (CDFG):
State Threatened (ST), State Endangered (SE), State Species of Special Concern (CSC), State Rare (SR), State Fully-Protected (SFP), no state status, but tracked by the California Natural Diversity DataBase or otherwise considered to be locally sensitive (CNDDB)

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

July 9, 2012

Mr. Jonathan Snyder
Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, CA 92009

Subject: Section 7 Informal Consultation for the City of Los Angeles: Elysian Park Water Recycling Project.
EPA Region 9 Grant # XP-00T79201-0

Dear Mr. Snyder:

The purpose of this letter is to request Fish and Wildlife Service (USFWS) concurrence with respect to the proposed Elysian Park water recycling project. The proposed project includes the construction of approximately 8,400 linear feet of recycled water pipeline, a 2 million gallon recycled water storage tank, 7,300 linear feet of potable water pipeline, and a 5,000 gallon potable water storage tank. The goal of the project is to bring recycled water to Elysian Park to reduce dependance on potable water in the location.

Description of the Proposed Activity

The proposed project involves the delivery of recycled water to Elysian Park. A new 16-inch recycled water pipeline would be constructed from the existing recycled water pipeline serving Taylor Yard, totaling approximately 8,400 linear feet. The proposed Elysian Park recycled water pipeline would connect to a new 2 million gallon recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a new recycled water pumping station located near Dorris Place. The proposed route for the recycled water pipeline would roughly follow Stadium Way, Angels Point Road, and Dorris Street. In addition, approximately 7,300 linear feet of 12-inch potable water pipeline would be constructed from Park Drive to a new 5,000 gallon potable water storage tank in Elysian Fields via a new potable water pumping station near the Grace E. Simons Lodge. The proposed route for the potable water pipeline would roughly follow Angels Point Road, Elysian Park Drive, and existing hiking trails southeast of Park Drive.

Identification of Biological Resources

A biological reconnaissance survey was conducted by AECOM on May 30, 2012. The biological reconnaissance survey included a literature review and field survey. The literature review reported one sensitive plant specie to have occurred in Elysian Park. Greata's aster (Symphyotrichum greatae) is reported from a collection from 1932. No sensitive wildlife is known to occur within Elysian Park. The park is not within any signifacant ecological areas or designated critical habitat.

A field study was conducted on May 10, 2012. The field study identified the type of habitat and wildlife along the proposed pipeline route and structure locations. The field study documented distrubed, native, and non-native plant. No sensitive plant species or wildlife were observed during the field study and the survey areas did not contain any sensitive vegetation. The survey area did provide marginally suitable roosting habitat for hoary bats, however here is a low probability for the bats to occur on site.

Conclusion

Pursuant to Section 7 of the Endangered Species Act, I have made a determination of not likely to adversely affect species or critical habitat. Please inform us within 30 days if you concur with our proposed findings. If you do not reply within this 30 day period, EPA will consider the lack of reply to indicate USFWS agreement with the findings.

For further information, please call Howard Kahan at (213) 244-1819 or Howard Kahan, US EPA Southern California Field Office 600 Wilshire Blvd. Suite 1460 (WTR-4), Los Angeles, CA 90017.

Sincerely,
/s/

Howard Kahan
Environmental Scientist

Enclosures: Biological Reconnaissance Survey

APPENDIX B

CULTURAL RESOURCES ASSESSMENT

CULTURAL RESOURCES ASSESSMENT
ELYSIAN PARK WATER RECYCLING PROJECT
CITY OF LOS ANGELES, CALIFORNIA

Prepared for:

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

Prepared by:

AECOM
515 South Flower Street, 9th Floor
Los Angeles, California 90071

Authors:

Heather Gibson, Ph.D., R.P.A.
Sara Dietler, B.A.

July 2013

U.S.G.S. Quadrangle: Los Angeles

Acreage: 3.77

Keywords: Elysian Park, Elysian Valley, Water Conveyance, Chavez Ravine, Chavez Ravine Arboretum, Avenue of the Palms, Los Angeles Police Academy, Zanja, Chavez Ditch, Los Angeles Water Company Ditch

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EXECUTIVE SUMMARY

The City of Los Angeles Department of Water and Power (LADWP) proposes to extend the existing recycled water pipeline network, which currently terminates near Taylor Yard, to serve Elysian Park. The Elysian Park Water Recycling Project (WRP project) includes installation of recycled water pipeline, potable water pipeline, a recycled water storage tank, a forebay tank, a new potable water booster pump, and new non-potable and recycled water pumping stations within Elysian Park. The project (Elysian Park WRP) involves the delivery of recycled water to Elysian Park. The Los Angeles Department of Recreation and Parks has committed to utilizing the recycled water supply that would become available via these new facilities to irrigate Elysian Park. A new 16-inch recycled water pipeline would be constructed from the existing recycled water pipeline serving Taylor Yard. It would begin on the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. Approximately 10,800 linear feet of recycled water pipeline would be installed connecting the Taylor Yard WRP with an approximately 2-million-gallon recycled water storage tank located on a hilltop near Elysian Fields via a proposed new recycled water pump station located on the west side of Interstate 5 just inside Elysian Park. Additionally, approximately 1,000 linear feet of 8-inch potable water pipeline would be construction from Park Drive to Grace E. Simons Lodge to provide for the potable water uses within Elysian Park. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pumping station would also be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields.

Archival research for this project was conducted on April 18–19 and 25–26, 2012, at the South Central Coastal Information Center housed at California State University, Fullerton. The records search revealed that six cultural resource investigations were previously conducted within the 0.5-mile radius of the project area. No archaeological resources were previously recorded within the study area; however, two Los Angeles Historic-Cultural Monuments (LAHCM No. 48 and LAHCM No. 110) are located within the study area, one of which (LAHCM No. 48) overlaps with the project area of potential effects.

Letters requesting a Sacred Lands File check was conducted by the Native American Heritage Commission (NAHC). The response from the NAHC indicated the presence of Native American traditional cultural place(s) in Township 1 South. A full contact program of interested parties, following Section 106 of the National Historic Preservation Act of 1966, was conducted.

A cultural resources field survey was conducted on May 8, 2012 and April 2, 2013. Areas surveyed were those determined to be potentially impacted by the project. Elysian Park itself was determined to be a resource and recorded during the survey; however, no archaeological resources were observed or recorded during the survey.

Elysian Park was evaluated for its eligibility to the National Register of Historic Places, the California Register of Historical Resources (CRHR) and for listing as a City of Los Angeles LAHCM. The park was found to be eligible under CRHR and LAHCM criteria.

Because the project would be constructed in an area known to be inhabited by Native American Indians prehistorically, and that experienced recreational and usage associated with water conveyance systems during the historic era, prehistoric and/or historic archaeological resources may be present within the project area. Such resources may lie beneath the surface obscured by pavement, vegetation, or the reservoir itself. Because the potential to encounter archaeological resources exists for this project, archaeological monitoring is recommended during all ground-disturbing activities as well as controlled grading of the excavation of launching and receiving pits for microtunneling, which will be directed by the archaeological monitor.

INTRODUCTION

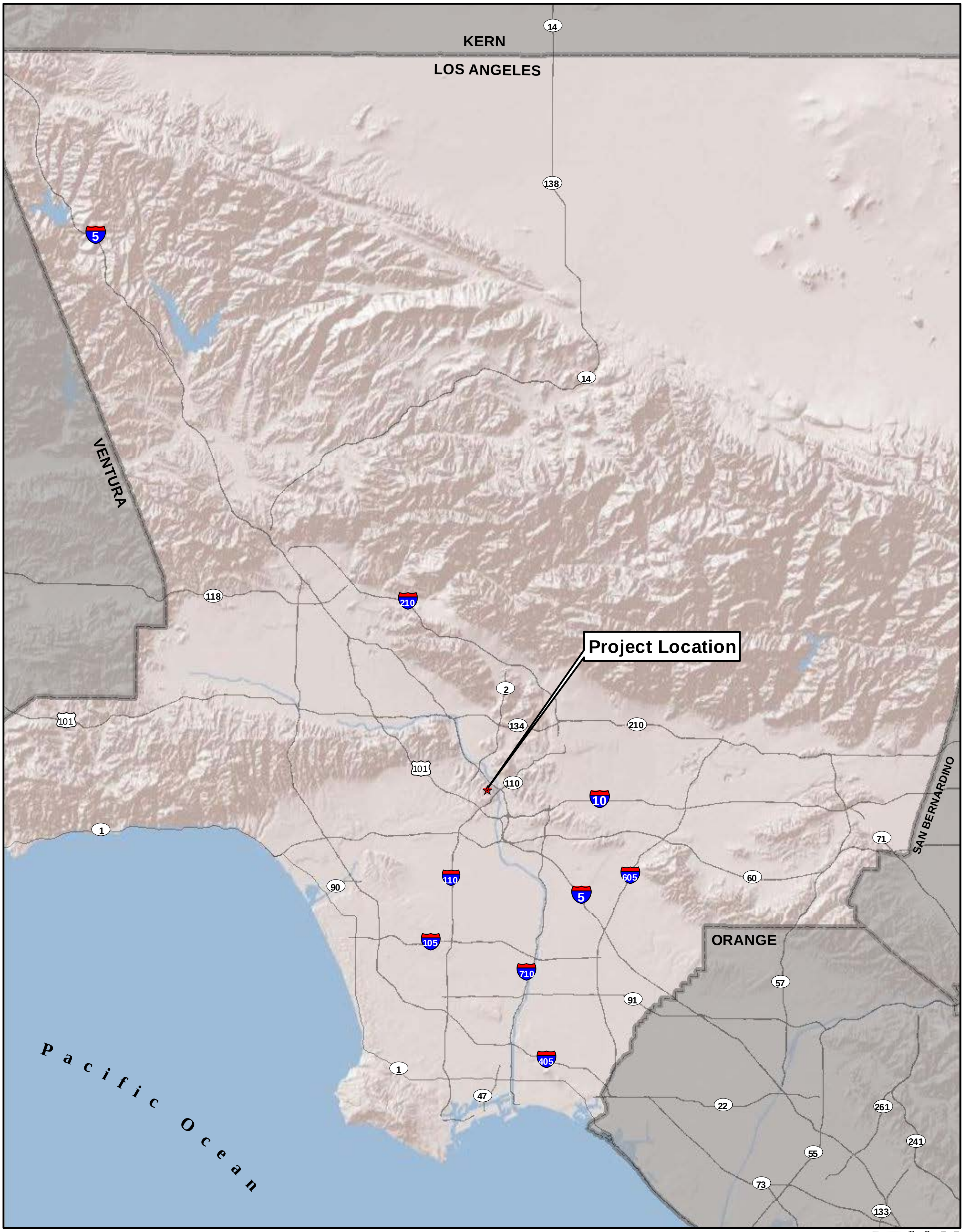
This document reports a Phase I cultural resources assessment in connection with the Elysian Park Water Recycling Project (Elysian Park WRP). The City of Los Angeles Department of Water and Power (LADWP) proposes to extend the existing recycled water pipeline network, which currently terminates near Taylor Yard and the Cornfields Park, to serve Elysian Park and customers in central Los Angeles. The Elysian Park WRP includes installation of recycled water pipeline, potable water pipeline, a new recycled water storage tank, forebay tank, booster pump, and new non-potable and recycled water pumping stations within Elysian Park and residential streets just north of Interstate 5 (I-5) (Figure 1). The project is being undertaken by LADWP in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Plan. Since the Elysian Park WRP is receiving funding from the Environmental Protection Agency (EPA) compliance with the National Environmental Policy Act (NEPA) and federal regulations are required, as such, this study of the Elysian Park WRP was prepared in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) as amended, and its implementing regulation, 36 California Code of Federal Regulations [CFR] Part 800 and the California Environmental Quality Act (CEQA).

PROJECT PERSONNEL

AECOM personnel involved in the cultural resources assessment are as follows: Heather Gibson, Ph.D., RPA, and Sara Dietler, B.A., served as report authors; James Wallace, M.A., R.P.A., provided geographic information system (GIS) support and conducted both archival research and the archaeological survey; Tim Harris, B.A., conducted archival research and provided graphics and GIS support; and Linda Kry, B.A., contributed to the report, and conducted archival research and archaeological survey. Resumes of key personnel are included in Appendix A.

REPORT ORGANIZATION

This report is organized following the *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* guidelines (California Office of Historic Preservation 1990). These guidelines provide a standardized format and suggested report content, scaled to the size of the project. First, a project description, including project location, proposed undertaking, and construction schedule, are provided. Next, the environmental and cultural settings are presented along with a detailed history of the project area. The research methods are then presented followed by the results of the archival research and Native American contact program, and the survey results. The final section summarizes the research and provides management recommendations.



Source: ESRI 2012 Imagery

0 5 10 15 20 Miles

AECOM

Figure 1
Regional Map

PROJECT DESCRIPTION

PROJECT LOCATION

The Elysian Park WRP would be primarily located within Elysian Park, which is located approximately 1.5 miles north of downtown Los Angeles (Figure 2). The proposed recycled water pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River, along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The proposed pipeline within the Elysian Valley neighborhood would abut residential and public facilities uses. The pipeline would extend approximately 700 feet southeast along the bike path to Riverdale Avenue, approximately 1,200 feet southwest on Riverdale Avenue to Blake Avenue, approximately 550 feet northwest on Blake Avenue to Dorris Place, and approximately 550 feet southwest on Dorris Place and 360 feet continuing under I-5 before extending into Elysian Park. Dedicated in 1886 and consisting of 575 acres, Elysian Park is the oldest and second largest park in Los Angeles. The park is owned by the City of Los Angeles and maintained by the Los Angeles Department of Recreation and Parks. Lying within the Santa Monica Mountains Zone, Elysian Park is designated as Open Space. Land uses in the vicinity of the park are primarily devoted to single- and multi-family residential uses, with some small-scale commercial uses. Dodger Stadium, the Los Angeles Police Academy, and a U.S. Naval reserve armory are located adjacent to the park, and Elysian Reservoir and two radio towers are located within the park.

The area of potential effects (APE) for the purposes of this cultural resources assessment includes the Elysian Park WRP (encompassing the location of the proposed recycled water pipeline within Elysian Park and extending north of I-5 along Dorris Place, Blake Avenue, Riverdale Avenue, and the Los Angeles River Bike Path) and facilities entirely within the park (the potable water pipeline, the recycling water storage tanks, the forebay tank, the booster pump, and the two pumping stations) (Figures 3 and 4).

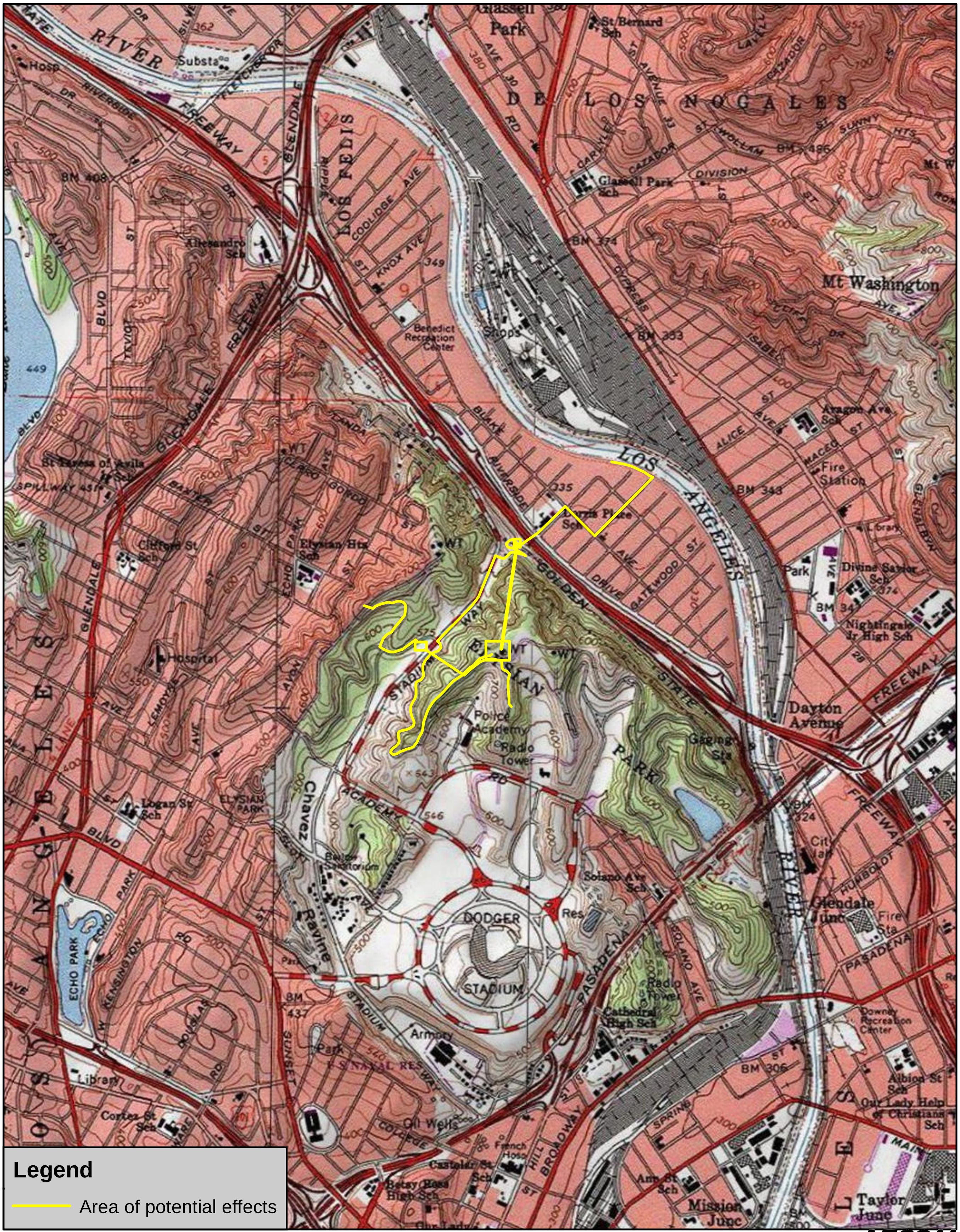
PROPOSED UNDERTAKING

The project is part of a broader effort by the City of Los Angeles to create reliable and sustainable sources of water for the future of the city. A key component of this effort is to maximize the use of recycled water. With imported water supplies becoming increasingly restricted and unreliable, the LADWP 2010 Urban Water Management Plan sets a goal for 59,000 acre-feet per year (AFY) of potable supplies to be replaced by recycled water by 2035. Specific objectives related to the goal of creating reliable and sustainable sources of water are to:

- Improve the reliability of the City of Los Angeles water supply through increased recycled water use
- Comply with the City of Los Angeles and the LADWP action plan titled "Securing L.A.'s Water Supply," outlining the steps to sustain a reliable water supply to meet current and future demand

- Construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area

- Provide recycled water to some of the City of Los Angeles' largest water customers, and where feasible, switch their potable water use into recycled water use



Source: ESRI 2012 USGS 7.5' Quadrangle Los Angeles (1966) Revised 1981 and 1994 - Map scale 1:24,000

0 0.25 0.5 0.75 1
Miles

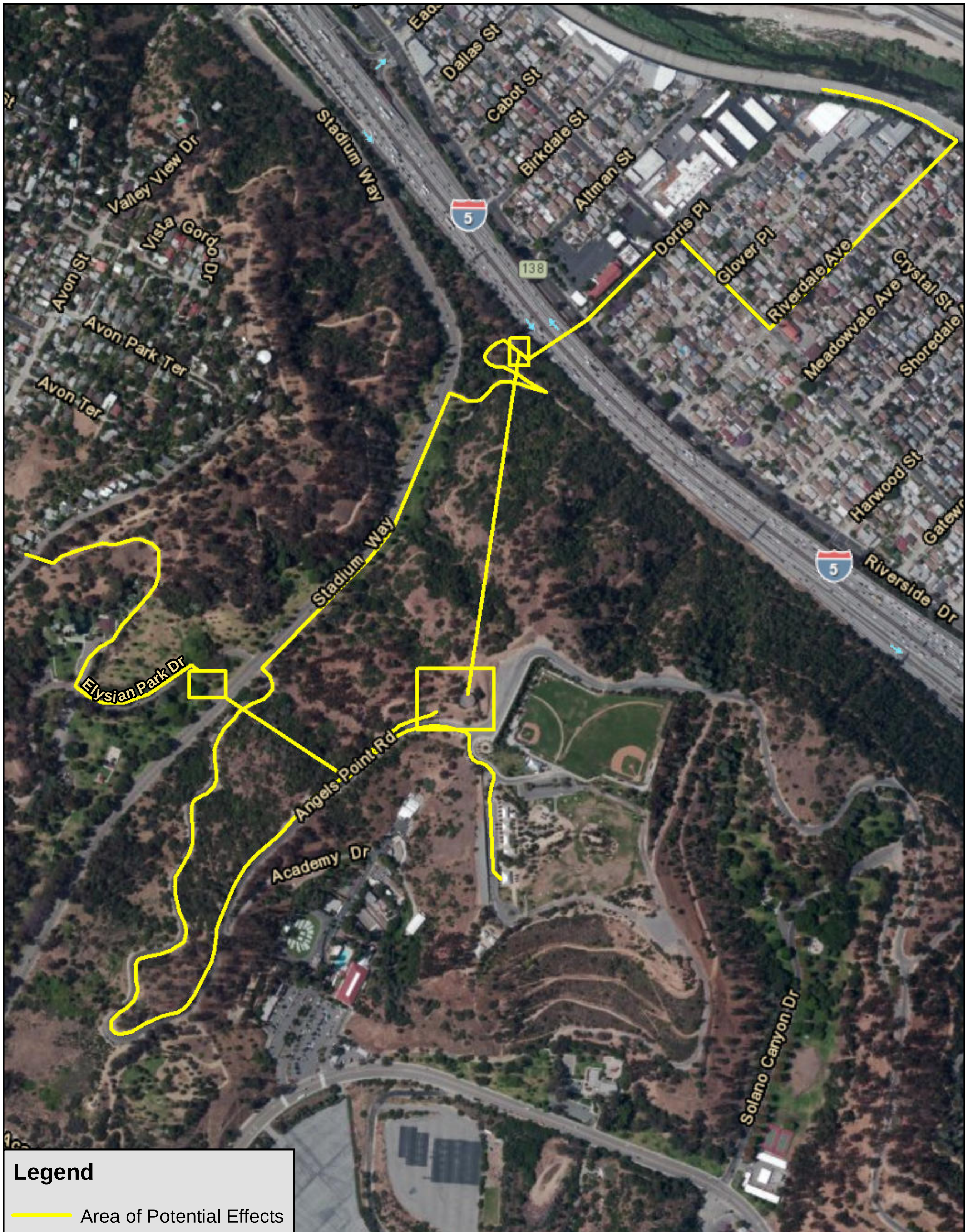
AECOM

Figure 2
Project Location

Source: ESRI 2012 Basemap Imagery

AECOM

Figure 3
Proposed Project Components



Source: ESRI 2012 Basemap Imagery

0 250 500 750 1,000
Feet

AECOM

Figure 4
Area of Potential Effects (APE)

Elysian WRP Project Description

The project (Elysian Park WRP) involves the delivery of recycled water to Elysian Park. The Los Angeles Department of Recreation and Parks has committed to using the recycled water supply that would become available via these new facilities to irrigate Elysian Park. A new 16-inch recycled water pipeline would be constructed beginning just southwest of the Los Angeles River along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The beginning of the pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River. A total of approximately 10,800 linear feet of pipe would be installed connecting the Taylor Yard WRP with a proposed new 2-million-gallon (MG) recycled water storage tank located near Elysian Fields via a proposed new 3,000 gallons per minute (gpm) recycled water pump station located on the west side of I-5 just inside Elysian Park.

Installation of the recycled water pipeline within the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, Stadium Way, and Academy Road would use trench construction known as “cut and cover.” An approximately 3-foot-wide by 4.5-foot-deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with imported material and repaved.

Installation of the recycled water pipeline from Dorris Place across I-5 would require a trenchless form of construction called “microtunneling” to avoid affecting traffic on the freeway. A tunnel of less than 1,000 linear feet would be constructed beneath the freeway. Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground.

A new recycled water pumping station, a 3,000-gpm non-potable water pumping station, and a 30,000 gallon forebay tank would be constructed at the park’s boundary near I-5. For both pumping stations, a flat pad approximately 65 feet long by 30 feet wide would be cleared and graded on which to place a slab foundation and the pump stations. The pumping stations would be exposed facilities secured by chain-link fencing and would stand less than 5 feet high. Clearing of vegetation in the area would be necessary prior to construction of the concrete pad. An existing road would be used to access the proposed site. . The non-potable water pumping station would be installed to provide backup supply to the proposed new recycled water system within the park.

From the recycled water pumping station, the recycled water pipeline would be installed along Stadium Way to Angels Point Road past the Los Angeles Police Academy to a hilltop adjacent to Elysian Fields. The pipeline would supply a proposed new 2-MG recycled water storage tank located in a flat area of Elysian Fields north of Angels Point Road. A flat pad would be cleared and graded on which to place the 85-foot-diameter recycled water storage tank. The tank would be a steel structure approximately 48 feet tall. The area currently contains a 0.5-MG water tank, which would be demolished.

An alternative for the Elysian Park WRP is considered that would be similar to the proposed project, except it would involve horizontal directional drilling through the hillside within Elysian Park between the proposed recycled water pump station to the proposed location of the recycled water storage tank. In order to construct this alignment through the hillside, instead of following an existing public roadway, a more intensive tunneling technique known as horizontal directional drilling would be required. This entails boring an approximately 2,300-foot long tunnel under Elysian Park. The drilling site must be located in a relatively flat area of adequate dimension to accommodate construction activities, include the launching pit, and provide adequate access and egress for construction vehicles. The recycled water pipeline would be installed by a means of tunneling, a construction technique in which a tunnel is excavated using a boring machine or similar equipment, excess earth material is removed, and steel or concrete tunnel liners or supports are installed and grouted in place to secure the excavated opening. Once the tunnel is completed, the recycled water pipeline itself is installed in segments, welded together, and placed in the tunnel. The installation is completed by grouting the space between the pipe and tunnel liner. This type of construction requires a pit from which to launch the boring machine and install the pipe sections. The pit also serves as the receiving area for earth material excavated from the tunnel.

In addition to either pipeline alternative, a new 30,000-gallon potable water forebay tank would be constructed in order to serve as a forebay, or source supply, for the non-potable water pumping station. The proposed forebay tank would connect to an existing potable water pipeline, which would supply the water to fill the tank. The forebay tank is needed to maintain a constant supply of water for the non-potable pumping station, and the proposed recycled water system within the park. A flat pad would be cleared and graded on which to place the approximately 24-foot diameter forebay tank. The tank would be approximately 12 feet tall. There is an existing road that would be used to access the proposed recycled water pumping station, non-potable water pumping station, and forebay tank at this location. These facilities would be located next to an existing pumping station, which would be removed as part of the project, in a portion of the park that is not used for active recreation, picnic facilities, or passive hiking.

To provide for the potable water needs of Elysian Park, such as for restroom facilities and drinking fountains, a proposed new potable water booster pump would be installed near Stadium Way and Elysian Park Drive. A proposed new potable water booster pump would be installed at the southwest corner of Stadium Way and Elysian Park Drive and housed within an existing pumping station. The booster pump would be installed to increase the pressure in the potable water pipeline in the event that potable water demand exceeds supply and water pressure drops below the required level. The area of the park in which the booster pump would be installed is currently used for passive recreation. From the potable water booster pump, a 2-inch potable water pipeline would be trenched directly up the hillside, partially following Angels Point Road to Park Road, and terminating at Elysian Fields.

Approximately 1,000 linear feet of 8-inch potable water pipeline would be installed to connect the proposed new 2-inch potable water pipeline serving Elysian Fields to an existing potable water service pipeline located outside of Elysian Park within Park Drive in the Echo Park neighborhood. Trenching would occur within an existing fire road from Park Drive to Grace E.

Simons Lodge where it would connect to Elysian Park Drive and directly up the hillside to Elysian Fields. An approximately 1.5-foot wide by 4-foot deep trench would be excavated for the 8-inch potable water pipeline. Once the 8-inch potable water pipeline has been installed within a segment, the trench would be backfilled with imported slurry and returned to its existing condition. For the 2-inch potable water pipeline, an approximately 4-inch wide by 1-foot deep trench would be excavated in the hillside, within the confines of Angels Point Road and Park Road and connect to the restrooms at Elysian Fields. Following installation of each segment of the 2-inch potable water pipeline, the hillside, Angels Point Road and Park Road would be backfilled with native soil material and returned to its existing condition.

Construction Schedule

Construction is anticipated to begin in December 2014 and take approximately 42 months or 3.5 years to complete, concluding in June 2018. However, construction is anticipated to be completed in two stages, the first of which would involve the pipeline installation, and the second stage would involve installation of the tanks and pumping stations. Thus, construction activities may be intermittent, not occurring continuously over the estimated construction period.

SETTING

ENVIRONMENTAL SETTING

The project is located in the western Los Angeles Basin, which is formed by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains. The floodplain forest of the Los Angeles Basin formed one of the most biologically rich habitats in Southern California. Willow, cottonwood, and sycamore, and a dense underbrush of alder, hackberry, and shrubs once lined the Los Angeles River as it passed near present-day downtown Los Angeles. Although historically most of the Los Angeles River was dry for at least part of the year, shallow bedrock in the Elysian Park area forced much of the river's underground water to the surface. This allowed for a steady year-round flow of water through the area that later became known as downtown Los Angeles (Gumprecht 1999).

Elysian Park is located among a series of low hills reaching a maximum elevation of approximately 650 feet above sea level. The Los Angeles River is located to the east of Elysian Park and flows in a southerly direction along the east side of the hills. Vegetation within Elysian Park is largely composed of nonnative ornamental plant species, although stands of native vegetation still exist in some areas.

CULTURAL SETTING

As a framework for discussing the potential cultural resources that may exist in the study area, the following discussion summarizes the current understanding of major prehistoric and historic developments in and around Los Angeles. This is followed by a more focused discussion of the history of the project area itself.

Prehistoric Overview

The earliest evidence of occupation in the Los Angeles area dates to at least 9,000 years before present (B.P.) and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. These settlements were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5,000 years B.P. contain a mortar-and-pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3,500 years B.P. a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increased populations in the region necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through the use of the circular shell fishhook on the coast, and more abundant and diverse hunting equipment. Evidence for shifts in settlement patterns has been noted at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and nonutilitarian materials were acquired, and travel routes were extended. Archaeological evidence suggests that the margins of numerous rivers, marshes, and swamps within the Los Angeles River Drainage served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily trafficked travel routes.

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the contemporary Native American group known as the Gabrielino (Wallace 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians. Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange Counties, the Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925) and maps produced by early explorers indicate that at least 26 Gabrielino villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht 1999). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls and rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939 [1852]). The primary plant resources were the acorn, gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939 [1852]).

Historic Overview

The Gabrielino were virtually ignored between the time of Cabrillo's visit and the Spanish period, which began in 1769 when Gaspar de Portola and a small Spanish contingent began their exploratory journey along the California coast from San Diego to Monterey. Passing through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank near the present-day North Broadway Bridge and the entrance to Elysian Park. This location has been designated California Historic Landmark Number 655, the Portola Trail Campsite. Father Crespi (a member of the Portola party) indicated in his diaries that on that day they "entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and…is the most suitable site for a large settlement" (The River Project 2001). He goes on to describe this "green, lush valley"; its "very full flowing, wide river"; the "riot of color" in the hills; and the abundance of native grapevines, wild roses, grizzly, antelope, quail and steelhead trout. Crespi observed that the soil was rich and "capable of supporting every kind of grain and fruit which may be planted." The river was named *El Rio y Valle de Nuestra Senora la Reina de Los Angeles de la Porciuncula*.

Gabrielino villages are reported by early explorers to have been most abundant near the Los Angeles River, in the area north of downtown, known as the Glendale Narrows, and those areas along the river's various outlets into the sea. Among those villages north of downtown are *Maawnga* in the Glendale Narrows; *Totongna* and *Kawengna*, in the San Fernando Valley; *Hahamongna*, northeast of Glendale; and the village of *Yaangna*, in the vicinity of present-day downtown Los Angeles.

The exact location of *Yaangna*, within downtown Los Angeles continues to be debated, although some believe it to have been located at the present-day location of the Civic Center (McCawley 1996). Other proposed locations are near the present day Union Station (Chartkoff and Chartkoff 1972:64), to the south of the old Spanish Plaza, and near the original site of the Bella Union Hotel located on the 300 Block of North Main Street (Robinson 1963:83, as cited in Dillon 1994:30). Dillon (1994:30) hypothesizes that the Union Station location is an unlikely spot for a large village or habitation, as it lies within the annual Los Angeles River flood zone. Local sources such as the Echo Park Historical Society report that when Gaspar de Portola and Father Juan Crespi camped on the river bank opposite the North Broadway Bridge entrance to Elysian Park, they were served refreshments by *Yaangna* Indian villagers from the current location of the Los Angeles Police Academy (Echo Park Historical Society 2008). The Los Angeles Police Academy is located in the northern portion of Elysian Park, which does not seem like a possible location for the Native American Village of *Yaangna*. It is possible, however, that the local histories are actually referring to the village of *Maawnga*, which was reported to have been originally located within the *Rancho de los Felis*. This rancho originally encompassed Griffith Park and extended south to the northern portion of Elysian Park. The village of *Maawnga*, also recorded as *Maungna*, is believed to have been located "high on a bluff overlooking Glendale Narrows in the hills now occupied by Elysian Park" (Gumprecht 1999:31).

Missions were established in the years that followed the Portola expedition, the fourth being the Mission San Gabriel `Archangel founded in 1771 near the present-day city of Montebello, approximately 7.5 miles east of the project area. By the early 1800s, the majority of the surviving *Gabrielino* population had entered the mission system. The Gabrielino inhabiting Los Angeles County were under the jurisdiction of either Mission San Gabriel or Mission San Fernando. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing, and epidemics and subsistence instabilities were increasing (Jackson 1999).

On September 4, 1781, which was 12 years after Crespi's initial visit, the *Pueblo de la Reina de los Angeles* was established not far from the site where Portola and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square, surrounded by 12 houses, and a series of 36 agricultural fields occupying 250 acres, plotted to the east between the town and the river (Gumprecht 1999).

An irrigation system that would carry water from the river to the fields and the pueblo was the communities' first priority and was constructed almost immediately. The main irrigation ditch, or *Zanja Madre*, was completed by the end of October 1781. It was constructed in the area of present-day Elysian Park and carried water south (roughly parallel to what is currently Spring Street) to the agricultural lands situated just east of the pueblo (Gumprecht 1999).

By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased (Gumprecht 1999). Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced 47 cultigens. Among the most popular were grapes used for the production of wine (Gumprecht 1999). Vineyards blanketed the landscape between present-day San Pedro Street and the Los Angeles River. By 1830, an estimated 100,000 vines were being cultivated at 26 Los Angeles vineyards. Over 8,300 acres of land were being irrigated by the *zanjas* during the 1880s (Gumprecht 1999).

The authority of the California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into non-Indigenous hands. Mission buildings were abandoned and quickly fell into decay. If mission life was difficult for Native Americans, secularization was typically worse. After two generations of dependence on the missions, they were suddenly disenfranchised. After secularization, "nearly all of the Gabrielinos went north while those of San Diego, San Luis, and San Juan overran this county, filling the Angeles and surrounding ranchos with more servants than were required" (Reid 1977 [1851]:104). Upon his 1852 visit to Los Angeles, John Russel Barlett wrote,

> I saw more Indians about this place than in any part of California I had yet visited. They were chiefly mission Indians, i.e., those who had been connected with the missions and had derived their support from them until the suppression of those establishments. They are a miserable, squalid-looking set, squatting or lying about the corners of the streets with no occupation. They have no means of obtaining a living, as their lands are taken from them, and the missions for which they labored and which provided after a sort for many thousands of them, are abolished (as cited in Sugranes 1909:77).

The first party of U.S. immigrants arrived in Los Angeles in 1841, although surreptitious commerce had previously been conducted between Mexican California and residents of the United States and its territories. Included in this first wave of immigrants were William Workman and John Rowland, who soon became influential landowners. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class *Californios* like the Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman 2006:14–17). Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht 1999). Having been established as a pueblo, property within Los Angeles could not be dispersed by the governor, and this task instead fell under the city council's jurisdiction (Robinson 1979).

The United States took control of California after the Mexican–American War of 1846, and seized Monterey, San Francisco, San Diego, and Los Angeles (then the state capital) with little resistance. Local unrest soon bubbled to the surface, and Los Angeles slipped from U.S. control in 1847. Hostilities officially ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, which included California, Nevada, and Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The conquered territory represented nearly half of Mexico's pre-1846 holdings. California joined the United States in 1850 as the 31st state (Wilkman and Wilkman 2006:15).

While the discovery of gold in Northern California in 1849 gave rise to the California gold rush, Los Angeles was where the first California gold was found. Francisco López had found several gold nuggets clinging to wild onion roots near the San Fernando Mission in 1842 (Guinn 1915; Workman 1935). The discovery of gold at Sutter's Mill in 1849 led to an enormous influx of people from others parts of the United States in the 1850s and 1860s; these "forty-niners" rapidly displaced the old rancho families. Southern California's prosperity in the 1850s was largely a result of the increased demand for cattle for meat and hides, which was created by the gold rush. Southern California was able to meet this need, and the local ranching community profited handsomely (Bell 1881:26).

Surrounded by miles of ranchos, Los Angeles was the center of a vibrant cattle industry throughout the 19th century (Figure 5). The city served as a trading hub for Southern California's "cow counties," and, at mid-century, the plaza was lined with the shops and town homes of ranch owners (Robinson 1979:243). In 1860, Los Angeles County had approximately 75,000 head of cattle, 14,000 horses, and 95,000 sheep. More than 55,000 bushels of wheat, 85,000 bushels of corn, and 209,000 pounds of wool were produced annually. The county accounted for approximately two-thirds of the state's wine output, producing almost 163,000 gallons in 1860. These agricultural pursuits were essential to the local economy.

When the Southern Pacific Railroad extended its line from San Francisco to Los Angeles in 1876, newcomers poured into Los Angeles and the population nearly doubled between 1870 and 1880. The completion of the second transcontinental line, the Santa Fe, took place in 1886 causing a fare war that drove fares to an unprecedented low. More settlers continued to head west and the demand for real estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time. The city's population rose from 11,000 in 1880 to 50,000 by 1890 (Meyer 1981:45).

The tremendous influx of people necessitated an increase in public transportation options, and, in the final years of the 19th century, passenger rail lines proliferated. Beginning with the Spring and Sixth Street Railway Company in 1873, dozens of rail lines appeared throughout the Los Angeles area. The Los Angeles Pacific Company began improving and extending interurban rail lines in earnest in 1906, creating impressive new switching stations and tunnels designed to shorten travel time and increase efficiency (Electric Railway Historical Association of Southern California 2006). The majority of these lines were subsequently incorporated into the Pacific Electric Company. As a result of growing population and the increasing diversion of water, the

Figure 5. Bird's Eye View in 1871 by Gores, View West (Library of Congress American Memory Collection)

once plentiful water supply provided by the Los Angeles River began to dwindle. The extensive floodplain dried up; the richly vegetated landscape had been cleared for construction materials and fuel; and the tens of thousands of head of cattle, horses, and sheep had decimated the local grasses. A number of waterworks projects were underway during the second half of the 19th century in an effort to increase water flow and water retention. These projects included the construction of Echo Park Reservoir, the Silver Lake Reservoir, and the further expansion of the Zanja Madre irrigation ditches. When these measures proved insufficient, a more permanent solution to Los Angeles' water shortage was sought. Under the direction of city engineer William Mulholland, the Los Angeles Bureau of Water Works and Supply constructed the 238-mile-long Los Angeles Aqueduct. This 5-year project, completed in 1913, employed the labor of more than 5,000 men and brought millions of gallons of water into the San Fernando (now Van Norman) Reservoir (Gumprecht 1999). Now able to offer water and sewer service at a grand scale, many smaller cities were voluntarily incorporated by Los Angeles (Robinson 1979:244).

The beginning of the 20th century saw the florescence of a uniquely suburban metropolis, where a vast network of residential communities overshadowed city centers, where the single-family home was valued over the high-rise, and where private space took precedence over public space (Hawthorne 2006). This landscape demanded an innovative transportation solution, and Los Angeles embraced automobiles and freeways like no other city had. The first homemade car puttered down city streets in 1897. Seven years later, the first grand theft auto was reported by Los Angeles Police (Wilkman and Wilkman 2006:50). Inexpensive automobiles gained popularity in the 1920s, soon creating tremendous congestion in the centers of cities and necessitating alternate transportation routes. The Arroyo Seco Parkway, connecting Los Angeles to Pasadena, was among the earliest "express auto highways" in the United States, opening in December 1940 (Balzar 2006). Dozens of freeways were constructed in the post-World War II years, radically altering the character of Los Angeles by simultaneously dividing local neighborhoods and connecting outlying communities.

During the first three decades of the 20th century, more than two million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area. By 1945, Los Angeles had undertaken 95 annexations, expanding from a 28-square-mile agrarian pueblo into a densely populated city covering more than 450 square miles (Robinson 1979:245).

History of the Project Area

The following section provides a brief history of the project APE. A portion of this context has been summarized from *Water Conveyance Systems in California* (JRP Historical Consulting 2000).

Elysian Park

In 1781, the Pueblo of Los Angeles was officially established along the Los Angeles River. The original Pueblo consisted of a public land grant that included four square leagues, or 28 square miles (Gumprecht 1999). In 1883, city officials decided to create Elysian Park on a 746-acre piece of land west of the river (Gumprecht 1999) within a hill area known as the Rock Quarry

Hills (Echo Park Historical Society 2008). The Rock Quarry Hills area was beyond the reach of the *zanjas* and the city's domestic water supply system, and as such, the land was considered worthless. At the time, land was valued based on the available water supply, not on the land itself (Gumprecht 1999:78). The Elysian Hills encompassed a series of rugged ravines: Chavez Ravine, Sulphur Ravine, Cemetery Ravine, Solano Ravine, and Reservoir Ravine (Figure 6). Reduced from its original size, Elysian Park currently covers approximately 575 acres, second only in size to Griffith Park. Elysian Park is the last remaining large piece of the original Pueblo of Los Angeles public land grant (Echo Park Historical Society 2008). Historically, Elysian Park has had an assortment of uses and currently still accommodates diverse needs.

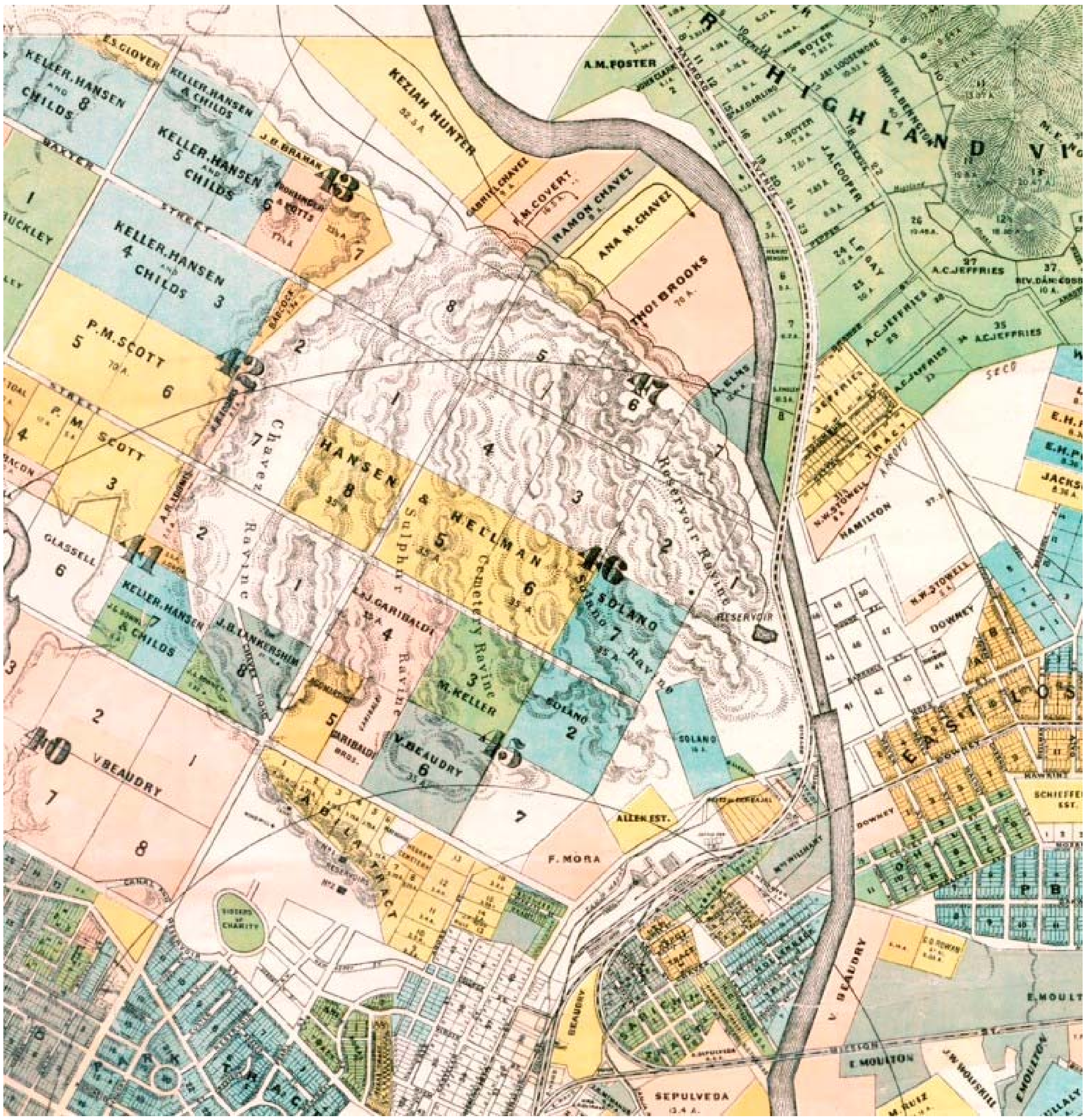


Figure 6. City of Los Angeles in 1894 by Stevenson, Detail of Elysian Park Vicinity (Library of Congress American Memory Collection)

The close of the 19th century served as a turning point for Los Angeles; the physical landscape was dramatically altered as the urban population increased (Figures 7 and 8). The completion of the Southern Pacific Railroad link from San Francisco to the transcontinental railroad increased trade and transportation and contributed to the city's prosperity and growth. Los Angeles' population had grown from 11,000 in 1880 to 319,000 in 1910. The middle and upper class became concerned with increased density and focused on improving the city and citizens through creating a beautiful city. The City Beautiful movement was concerned with more than aesthetics; it was a political movement that created parks and beatification groups that in turn promoted urban planning and secured the voter approval for public financing of projects (Wilson 1989).

Parks were central to the City Beautiful movement and the definition of Elysian Park fits the social reformers' cultural ideal of parks, "a place of delightful retreat." Mayor Henry Hazard was an enthusiastic supporter of Elysian Park. In the 1890s, he secured funding for over 100,000 planted trees as well as a road to access the park. The Mayor advocated that the park was crucial to the economic vitality of the city and compared the park to San Francisco's Golden Gate Park (Los Angeles Times [LAT] 1893).

In 1893, the Los Angeles Horticultural Society established the arboretum, as well as botanical gardens within the park. In 1967, the Chavez Ravine Arboretum was declared Los Angeles City Historic-Cultural Monument (LAHCM) No. 48. The Avenue of the Palms was planted on what is now Stadium Way, with a rare specimen of wild date palms in 1895 (Echo Park Historical Society 2008).

In proximity to the Arboretum, the Barlow Respiratory Hospital was founded on 25 acres next to Elysian Park on Chavez Ravine Road. In 1902, it opened as a sanatorium to care for patients with tuberculosis. Its natural open space setting was a key element of treatment for tuberculosis, which was thought to be a disease contracted from filthy urban living. The buildings mostly date from 1902 to the mid 1950s and are Craftsman and Spanish Colonial Revival style. The site was recognized as LAHCM No. 504 and eligible for listing as a National Register of Historic Places (NHRP or National Register) historic district in 1992 (Finegan 1992).

In 1925, the Los Angeles Police Revolver and Athletic Club was founded on 20 acres of the park land for a pistol range. The Elysian Park shooting range served as the venue site for the 1932 Olympics revolver and pistol matches. In 1936, the Los Angeles Police Department took over the range and hired landscape artist Francois Scotti to design a rock garden, which included four pools, stone seats, waterfalls, an amphitheater, and an outdoor dining area. The rock garden was dedicated by the City of Los Angeles in 1973 as Cultural Heritage Monument No. 110. From 1935 until 1995, all members of the Police Department received training at the Los Angeles Police Academy at Elysian Park (Hays 2005).

The most controversial transition for Elysian Park was the land acquisition and construction for Dodger Stadium. In the first half of the 20th century, Chavez Ravine was a thriving Mexican American barrio that included small numbers of Chinese Americans and African Americans. This neighborhood was named after Julian Chavez, who developed the neighborhood in the 1830s with the influx of migrant families during the Mexican Revolution. By the mid-20th century, most of the houses were dilapidated and overcrowded (Figure 9). However, the inexpensive housing allowed multi-generational families to live in the same area thereby maintaining a strong sense of community (Wilkman and Wilkman 2006).

In 1949, the Los Angeles City Council endorsed a public housing plan that would use $110 million of federal money to construct 10,000 new housing units in 11 sites around Los Angeles, including Chavez Ravine. The families of the neighborhood were informed that their homes would be demolished but would be replaced with better public housing. Families in Chavez Ravine sold their homes to the government under eminent domain under the agreement that the land would be for public use. The plans to build public housing were thwarted and the City Council and Los Angeles voters approved the purchase of the land for Dodger Stadium (Ruiz 2006). Figure 10 shows the Elysian Park vicinity before the construction of Dodger Stadium.

The Citizens Committee to Save Elysian Park (CCSEP) was formed in 1965 in an attempt to thwart plans to develop the park. Prior to CCSEP's founding, the Pasadena Freeway split the park, Dodger Stadium had been constructed within portions of the park, and several other developments including the reservoir system were constructed. The CCSEP is still active and has continued to stop development and preserve the Elysian Park lands as open space (Jamison 2008).

The Los Angeles Water System

Water—too much, or too little—has shaped much of California's history. Rain falls unevenly and seasonally over the length of the state, and all too often California faces prolonged drought or flood cycles. The state has a generally Mediterranean climate, with little rain falling through the summer months. Although the amount of available water varies enormously from northern redwood regions of heavy rainfall to dry southern deserts, California as a whole is considered semiarid, and much of the state relies on winter snow in the mountains to provide spring and summer runoff to water the valleys below.

The effects of the erratic water distribution are magnified by the eccentric placement of population centers. Traditionally, cities and towns are developed from agricultural beginnings located adjacent to water sources. California, however, developed abruptly during the Gold Rush. Instead of following a gradual growth pattern along waterways based on traditional practices of agriculture, California became suddenly urban, with cities preceding farms.

During the Gold Rush and the years that followed, California rarely let planning for long-term water needs interfere with current enterprises, and many decisions were made without regard for an adequate supply of water. People set up businesses in locations that suited them in other ways. Cities were built along the coast, where shipping and commercial advantages outweighed the shortages of municipal water supplies; extracted gold from dry diggings using water carried in miles of mining ditches; planted crops requiring irrigation in fertile, but arid valleys; and brought in the water to make desert housing developments bloom, at least until the lots were sold.

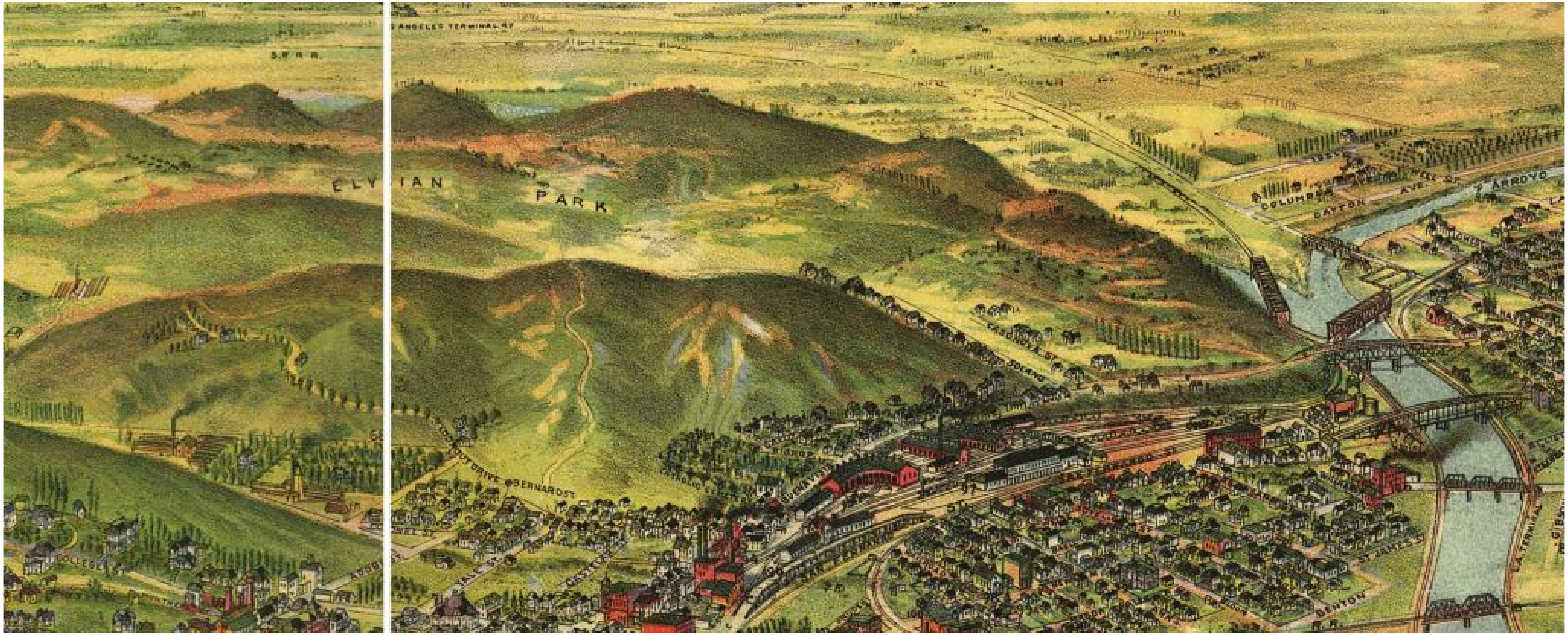


Figure 7. Bird's Eye View of Los Angeles by B.W. Pierce, 1894, Showing Elysian Park and Los Angeles River, View North (Library of Congress American Memory Collection)

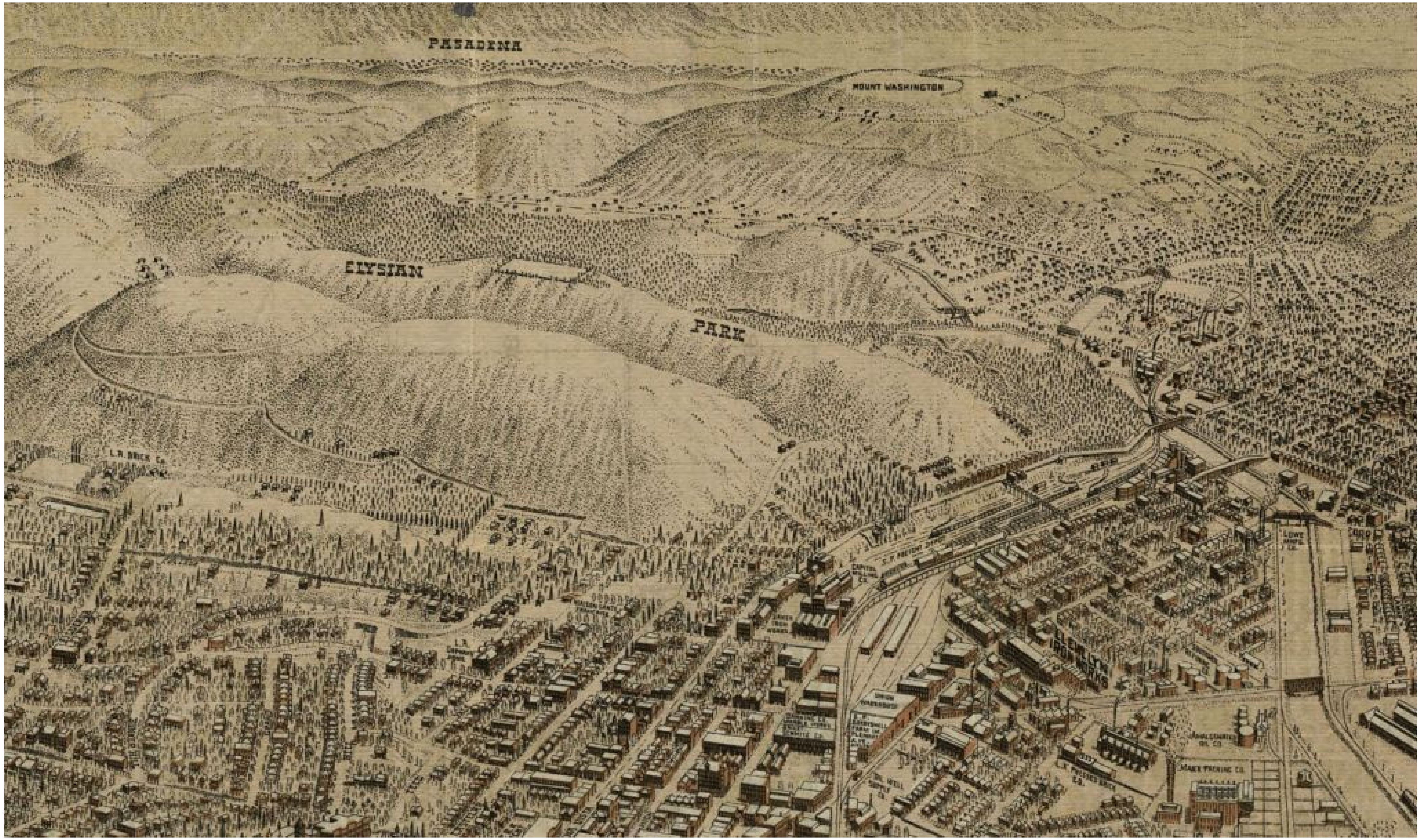


Figure 8. Los Angeles in 1909 by W. Gates Showing Elysian Park and Los Angeles River, View North (Library of Congress American Memory Collection)

Figure 9. Chavez Ravine Housing, 1950 (Los Angeles Public Library)

For the Pueblo of Los Angeles, the *zanjas*, or publicly owned irrigation ditches, sustained the area for many years and enabled ranching and cultivation of the fertile floodplains. The *zanjas* were established by the residents' Mexican predecessors, and consisted of gravity systems, which resulted in the irrigation of lands that lay to the south of the source. Lands at a higher elevation could not be irrigated by the *zanjas*. The *Zanja Madre* (Mother Ditch) had been constructed, branching off of the river and carrying the water south to the agricultural lands surrounding the pueblo. As the pueblo grew and more water was diverted from the river, the supply began to dwindle. Initially, however, there was little worry about the future water needs of the city, and no regulation of the water distribution itself. Typically, farmers would dig their own ditches from the main ditches or from the river. Private water carriers hauled and sold water to households for domestic use (Gumprecht 1999).

By the mid-19th century, city officials established a system of water use fees and rules to govern the *zanjas*. They created the official city position of *zanjero*, the highest paid of any public official in Los Angeles. The duties of the *zanjero* varied including issuance of permits for water

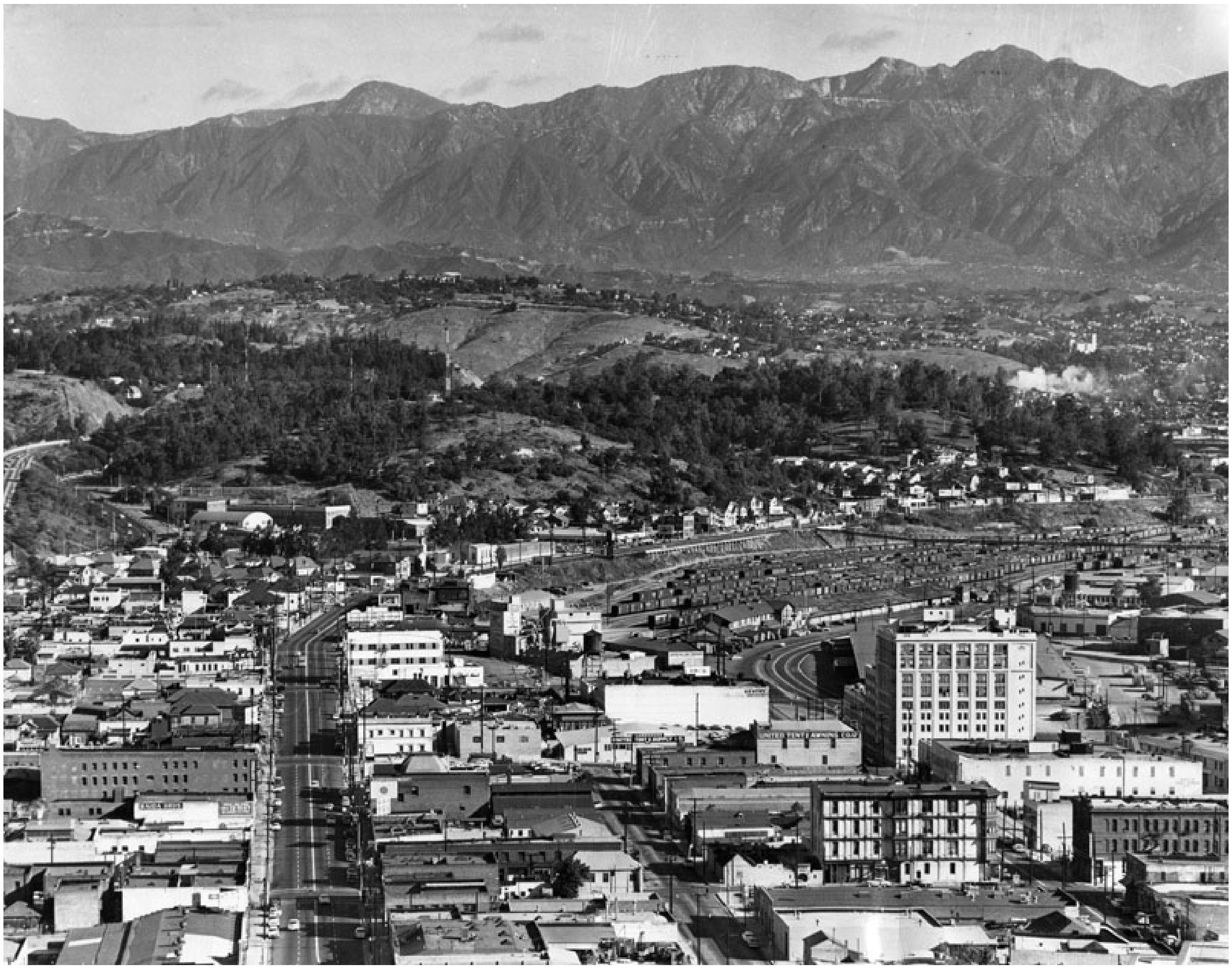


Figure 10. Los Angeles North of Downtown, 1958, Elysian Park at Center, View North-Northeast (Los Angeles Public Library)

usages, maintenance of the ditches, maintenance of the city dam, and even the early coordination of flood control work on the Los Angeles River (Gumprecht 1999). A map compiled by Gumprecht (1999) shows the extent of the *zanja* system in 1880 (Figure 11).

While the *zanjas* worked well for irrigation, the water was frequently unsuitable for domestic purposes. The city had no sewer system or other outlet for its liquid waste, and the *zanjas* were being used for laundry and bathing, as well as trash and sewage disposal. Several efforts to pipe domestic water directly to homes were tried as early as 1864. To keep up with demand, the city allowed several private companies to be formed in order to provide domestic supplies of water. The city continued to oversee the irrigation system, eventually enclosing several of the *zanjas* or creating ornamental *zanjas* in several areas (Gumprecht 1999).

As Southern California grew, the Los Angeles River became an inadequate supply of water for the residential and industrial development that gradually displaced agricultural uses. With the

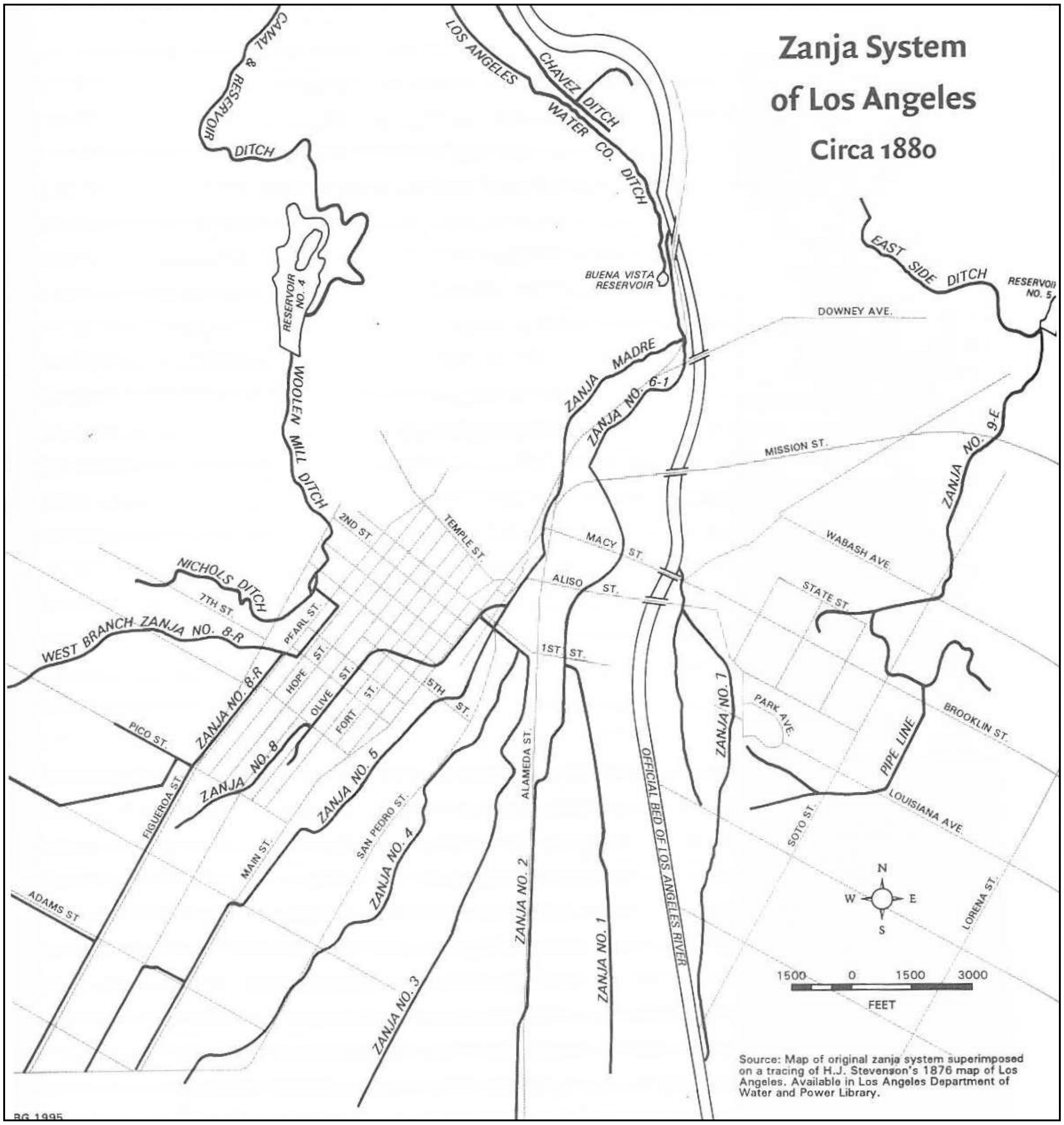


Figure 11. Los Angeles Zanja System in 1880 (Gumprecht 1999)

arrival of the Southern Pacific Railroad, the demand became so great that the Los Angeles City Water Company began tapping the river's water supply before it even reached the surface. Water supply reservoirs began to be used and the *zanja* system was dismantled ditch by ditch (Gumprecht 1999). By 1902, the Los Angeles municipal government took back jurisdiction of its own water needs and purchased the existing water system, which consisted of seven reservoirs and 337 miles of pipe.

Elysian Valley/Frogtown Neighborhood

The neighborhood known as Elysian Valley is located on a narrow pocket of land between the Golden State Freeway (I-5) and the Los Angeles River, north of Elysian Park (McMillan 1987). In the 19th and early 20th centuries, this area was devoted to farming in the low-lying floodplain of the river (Figure 12).

Figure 12. Los Angeles River and Farming Area North of Elysian Park, 1900 (Los Angeles Public Library)

As the city's population grew following the arrival of the railroad and the local economy transitioned from agriculture to industry, this area was more densely developed for industrial, commercial, and residential uses. In the first half of the 20th century, Elysian Valley was a working class neighborhood, with many residents employed at the nearby Southern Pacific Railroad yard, located just across the river. Typical homes in Elysian Valley were small cottages and bungalows (McMillan 1987).

In 1926, Dorris Place Elementary School was opened at 2225 Dorris Place. A 1930 Sanborn map (Figure 13) shows that the school complex included the main school building and supplemental classroom buildings along the block between Riverside Drive and Blake Avenue. Farther northeast on Dorris Place were facilities for the Los Angeles Playground and Recreation Department. Most other buildings in the neighborhood were residential, with some businesses located along Riverside Drive.

By 1951, the neighborhood was more densely built (Figure 14). St. Ann's Church had been built at 2300 Dorris Place (at the corner of Blake Avenue). The Los Angeles Playground and Recreation Department had expanded their facilities by this time to include lumber storage, a paint shop, and an auto repair shop. At 2347 Dorris Place, the City of Los Angeles Department of Public Works had a sewer maintenance facility. Residential buildings made up most of the new development in the neighborhood, with new businesses sprouting up along Riverside Drive.

The I-5 freeway was constructed in the 1950s along the base of the Elysian Hills in the former location of Riverside Drive. When the freeway was constructed, Riverside Drive was moved to the northeast and many of the neighborhood's businesses were demolished. In addition, access to the neighborhood became increasingly difficult as it was cut off from Elysian Park by the freeway and associated barrier walls (Figures 15 and 16). Elysian Valley, popularly known as "Frogtown," has since remained largely a residential neighborhood.

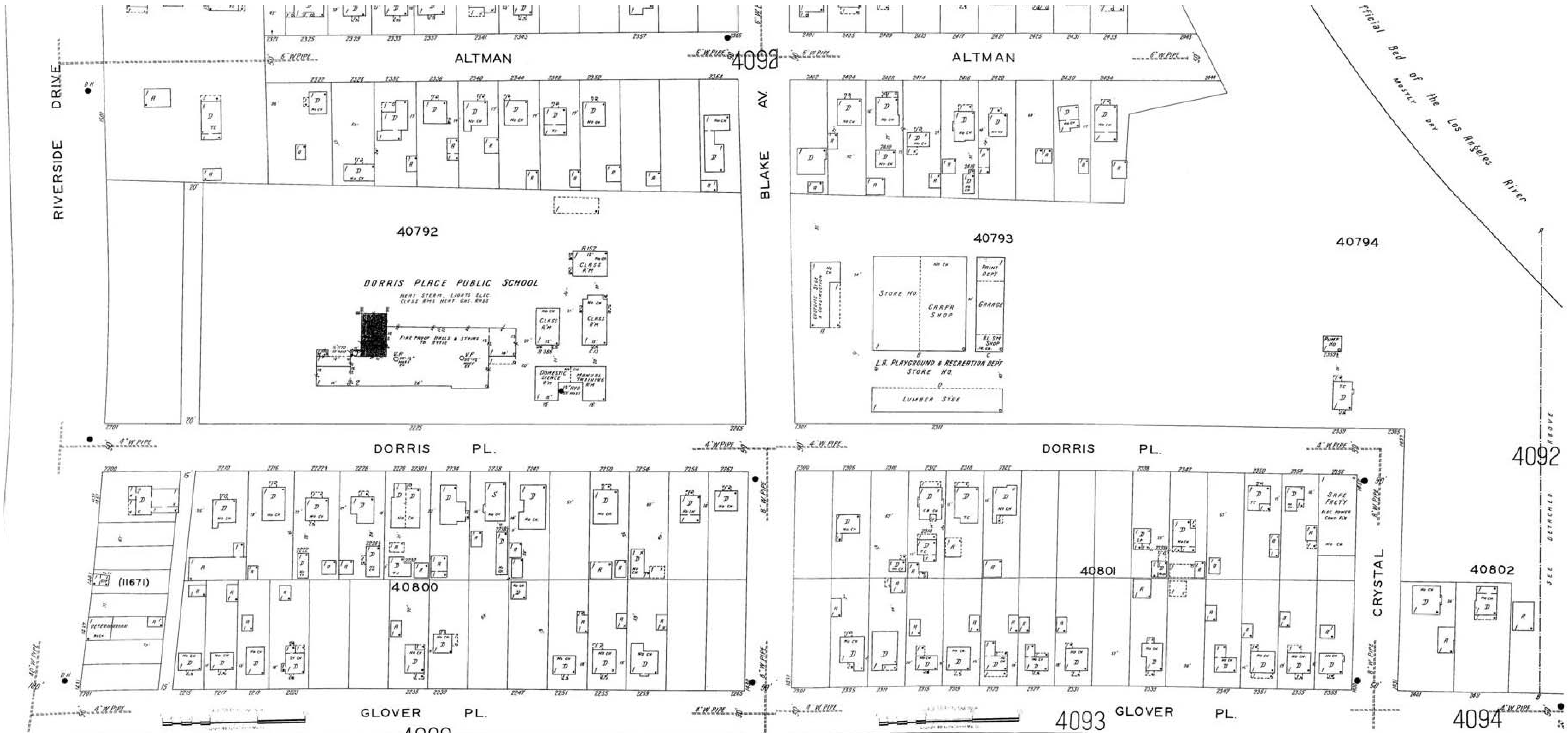


Figure 13. Sanborn Fire Insurance Map, 1930, Volume 40, Sheets 4091 and 4092 (Los Angeles Public Library)

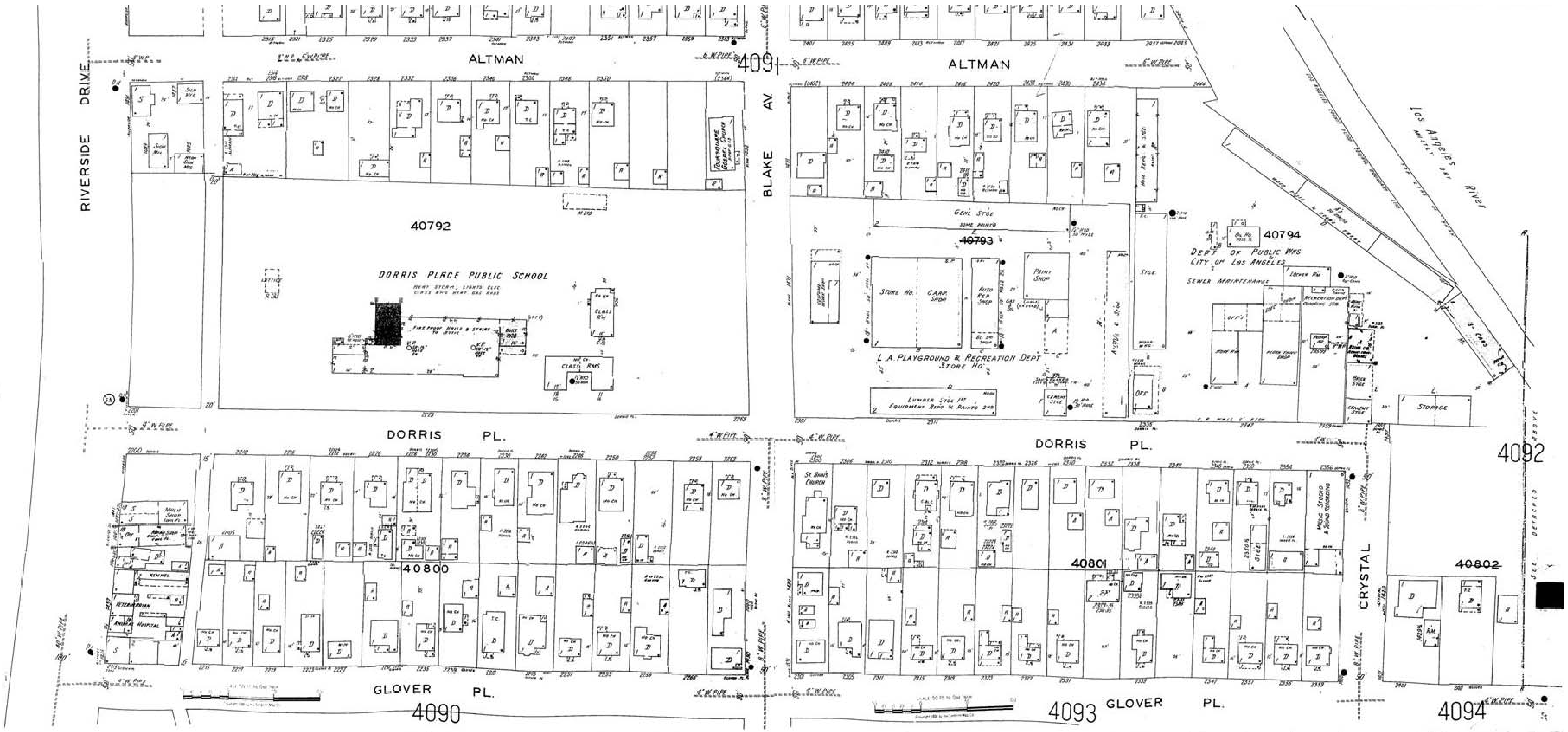


Figure 14. Sanborn Fire Insurance Map, 1930–1951, Volume 40, Sheets 4091 and 4092 (Los Angeles Public Library)

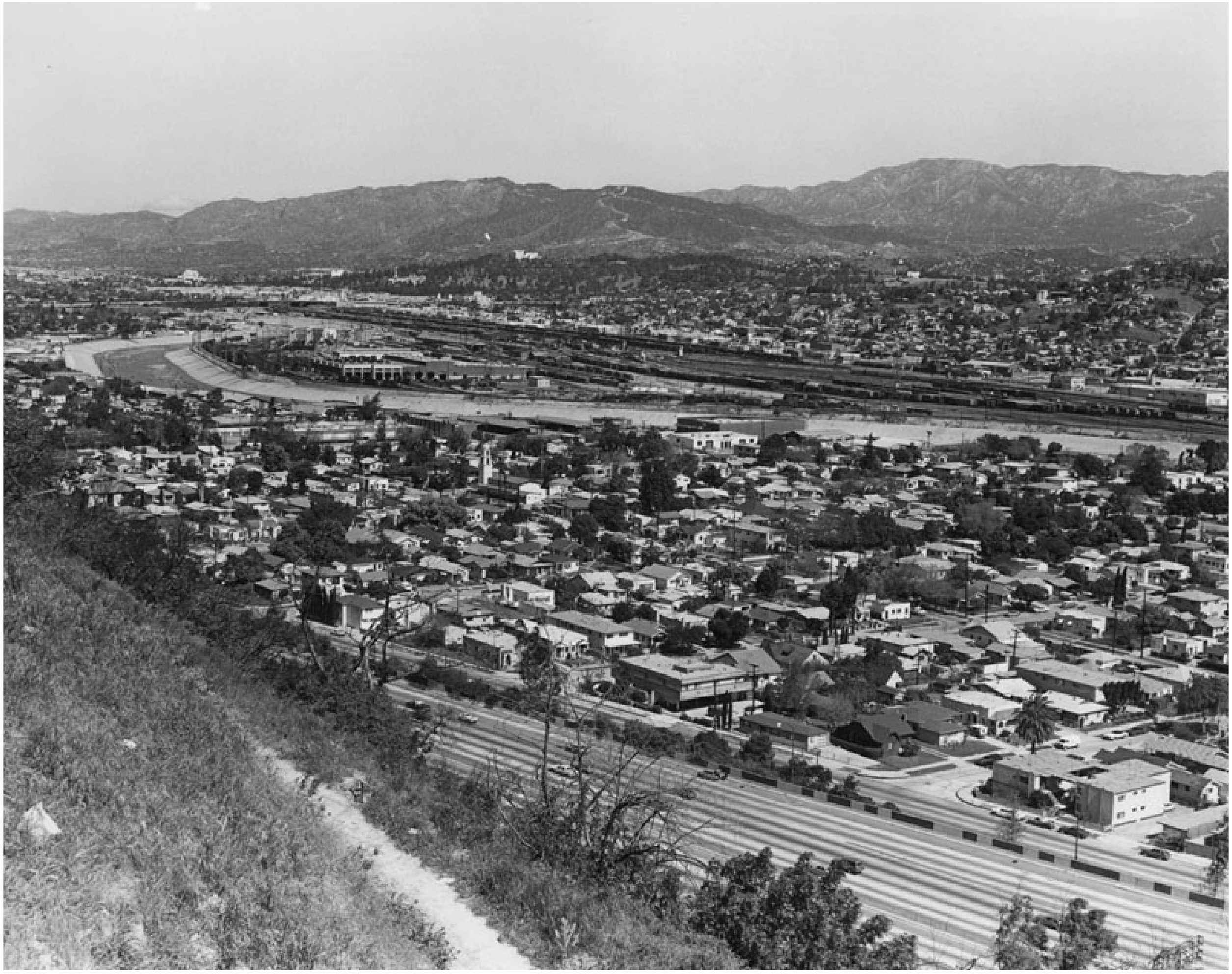


Figure 15. Los Angeles River Valley, "Frogtown" in the Foreground, 1983, Plate 1. (Los Angeles Public Library)

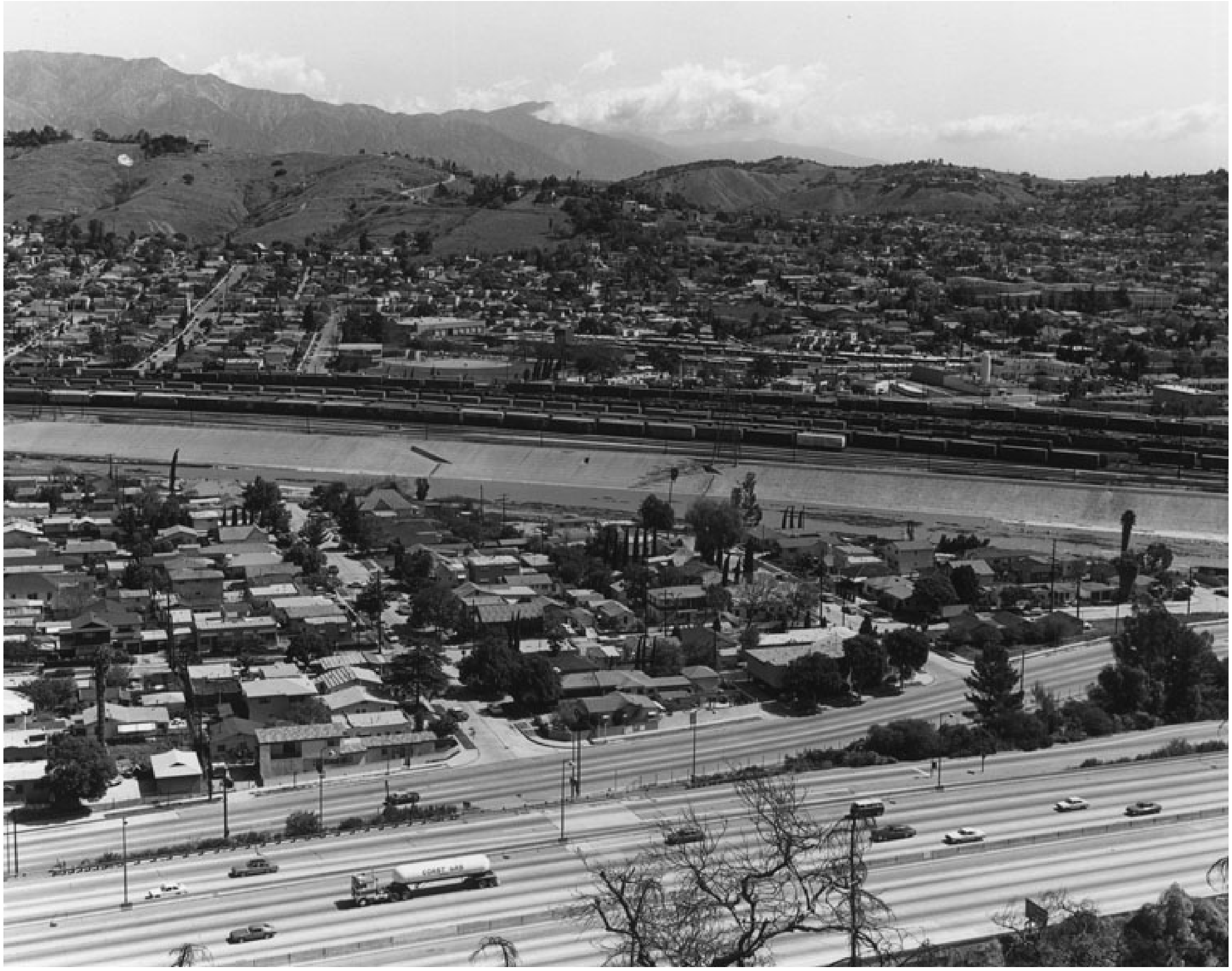


Figure 16. Panoramic View of Los Angeles River Valley, “Frogtown” in the Foreground, 1983, Plate 2. (Los Angeles Public Library)

ARCHIVAL RESEARCH AND CONTACT PROGRAM

The cultural resources investigation for this project involved archival research including a cultural resources records search, a search of the Sacred Lands File, and other background research.

ARCHIVAL RESEARCH

Additional historic research to develop a historical context for Elysian Reservoir was conducted at a number of archival repositories and local agency archives. Archives searched include the Los Angeles Public Library; the City of Los Angeles Bureau of Engineering Vault; and plans, photos and historical narratives provided by the LADWP. Documents searched during the course of the research include book publications, historic newspaper articles, historic photographs, and historic maps.

Records Search

A search of previously recorded cultural resource files and related historic maps for this project was conducted on April 18–19 and 25–26, 2012, at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The project APE and a study area encompassing a 0.25-mile radius around the APE were searched for cultural resource investigations and previously recorded cultural resource sites. The archival research involved review of archaeological site records, historic maps, and historic site and building inventories.

The records search revealed that six cultural resource investigations were previously conducted within a 0.25-mile radius of the project (Table 1), and no archaeological sites are recorded within the APE or study area. The cultural resource investigations include five cultural resources Phase I assessments (LA-2517, 4309, 4310, 9604, and 10699) and one monitoring report (LA-4212). Although LA-2517 is directly adjacent to the APE, none of the APE has been previously surveyed, and the previous investigations included less than 10 percent of the entire study area.

Table 1. Previous Surveys Conducted within 0.25 Mile of the Project APE*

Author	Report # (LA-)	Description	Date
Bonner, Wayne H.	4212	Cultural Resources Monitoring Report for Cellular Facility	1998
Bonner, Wayne H.	9604	Cultural Resource Assessment for Cellular Facility	2008
Bonner, Wayne H.	10699	Cultural Resource Assessment for Cellular Facility	2010
Duke, Curt	4309	Cultural Resource Assessment for Cellular Facility	1999
Duke, Curt	4310	Cultural Resource Assessment for Cellular Facility	1999
Wlodarski, Robert J.	2517	Phase I Archaeological Study of Eight Areas	1991

*No surveys were found to overlap with the APE.

With the exception of the two LAHCMs, as described below, all of the studies (see Table 1) were negative for previously recorded or newly discovered archaeological or historic resources.

No previously recorded archaeological sites were within the APE or the study area. However, two landscape and built features are located within the study area that have been designated as LAHCMs and are described below.

California State Historic Resources Inventory

The California Office of Historic Preservation's Historic Resources Inventory does not list any historic resources within the APE or the 0.25-mile study area. However, two resources are listed on the inventory that are outside of the study area but within or adjacent to Elysian Park. These resources are Dodger Stadium, located at 1000 Elysian Park Avenue (P-19-173073), and the Barlow Respiratory Hospital (19-175626) District, which consists of 40 buildings located at 2000 Stadium Way on the southwest side of Elysian Park. Both resources have been evaluated as possibly having local, state, or national significance.

California Historical Landmarks

A listing of California Historical Landmarks (CHLs) identified no historic landmarks within 0.25 mile of the project site. However, two historic resources are listed on the register within or adjacent to Elysian Park, neither of which overlaps with the APE nor occurs within the study area. The first of these resources is the First Jewish Site in Los Angeles (CHL 822), which is located to the south of Dodger Stadium in the area of Chavez Ravine. This site is the former location of the first Jewish cemetery in the City of Los Angeles. The cemetery was moved in approximately 1890 to Home of Peace Cemetery in East Los Angeles. The second resource, located to the east of the project APE on the northwest corner of North Broadway and Elysian Park Drive, is the Portola Trail Camp Site (CHL 655), where the Gaspar de Portola expedition camped in 1769.

Los Angeles Historic-Cultural Monument Register

A search of the LAHCM register identified two historic monuments previously recorded within 0.25 mile of the project APE, both located within Elysian Park (Table 2). In addition, a third historic monument, the Barlow Sanitorium, was listed outside of the study area but adjacent to Elysian Park.

Table 2. Historical Monuments Designated by the City of Los Angeles

Resource Name	Number	Address	Year Built	Significance
Chavez Ravine Arboretum	48	Elysian Park	1893	LAHCM
Los Angeles Police Academy Rock Garden	110	1880 N. Academy Drive	1937	LAHCM

The first monument (LAHCM 48) is the Chavez Ravine Arboretum, which was founded in 1893 in Elysian Park, with tree planting continuing through the 1920s. The arboretum is the first and oldest arboretum existing in Southern California and many of the original trees planted are still standing today. The arboretum was inducted into the LAHCM register in 1967 (Los Angeles Department of Recreation and Parks 2012). The project APE, including a segment of the potable water pipeline and the non-potable water pumping station (see Figure 3), is located within a portion of the arboretum.

The second monument (LAHCM No. 110) is located adjacent to the APE alignment within the study area; however, this resource does not overlap with any portion of the APE. This resource is the Los Angeles Police Academy Rock Garden, which is located within the Los Angeles Police Academy. The rock garden was designed and built by landscape artist Francois Scotti in 1937. The monument was inducted into the LAHCM register in 1973.

INTERESTED PARTIES CONSULTATION PROGRAM

Sacred Lands File Search

As part of this investigation, AECOM conducted a Native American contact program on behalf of the LADWP, to inform interested parties of the proposed project and to address any concerns regarding Traditional Cultural Properties or other resources that might be affected by the project as required by 36 CFR 800.2(A) of Section 106 of the NHPA. The program involved contacting Native American representatives provided by the Native American Heritage Commission (NAHC) to solicit comments and concerns regarding the project. Documents pertaining to the Native American contact program are attached as Appendix B.

Letters were prepared and mailed to the NAHC on April 18, 2012 and on April 9, 2013. The letters requested that a Sacred Lands File check be conducted for the project and that contact information be provided for Native American groups or individuals that may have concerns about cultural resources in the project area. The NAHC responded to the first request in a letter dated April 25, 2012. The letter indicated that "Native American cultural resources were not identified in the project area of potential effect…also, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any groundbreaking activity." The letter also included an attached list of Native American contacts.

The NAHC responded to the second request regarding revisions to the proposed project in a letter dated April 17, 2013. The letter indicated that "A record search of the NAHC Sacred Lands File did indicate the presence of Native American traditional cultural place(s) in the Township 1 South but not in Township 2 South…also, the absence of archaeological or Native American sacred places/sites does not preclude their existence. Other data sources for Native American sacred places/sites should also be contacted. A Native American tribe of [*sic*] individual may be the only sources of presence of traditional cultural places or sites." The letter also included an attached list of Native American contacts.

Letters were mailed on April 27, 2012, to each group or individual provided on the contact list. Nine parties were indicated on the contact list: Bernie Acuna of the Gabrielino-Tongva Tribe, Cindy Alvitre of the Ti'At Society/Inter-Tribal Council of Pimu, Ron Andrade of the Los Angeles City/County Native American Indian Commission, Linda Candelaria of the Gabrielino-Tongva Tribe, Robert Dorame of the Garbrielino Tongva Indians of California Tribal Council, Sam Dunlap of the Gabrielino Tongva Nation, Anthony Morales of the Gabrielino /Tongva San Gabriel Band of Mission Indians, Johntommy Rosas of the Tongva Ancestral Territorial Tribal Nation, and Andrew Salas of the Gabrielino Band of Mission Indians. Maps depicting the project area and response forms were attached to each letter. Follow-up phone calls were made to each party on June 8, 2012. Six responses were received from five parties as described below.

Mr. Johntommy Rosas responded to the letter via email on April 28, 2012. Mr. Rosas indicated in his email, "I OBJECT and OPPOSE the ref[erenced] proposed project…I also object to the illegal process/timelines you have self imposed which are in complete violation to the NHPA and SB18 tribal consultations which are both required and we demand and invoke now. We also will consult directly with DWP the government entity not your firm as is our right. That way our rights can be fully implemented and adhered to versus what you or your have already attempted illegally, so you need to [forward] this em[ail] to DWP and they will provide us the direct contact." Per Mr. Rosas' request, AECOM notified the DWP that he would prefer to consult with them directly. AECOM received confirmation that the DWP would take over the consultation and no further contact with Mr. Rosas was attempted by AECOM.

Mr. Anthony Morales responded via phone on April 30, 2012. Mr. Morales indicated that there are "many culturally sensitive areas near the 110 and 5 freeways and that Dodger Stadium was constructed in Chavez Ravine prior to CEQA and important cultural resources were likely destroyed during that construction". He stated that, "proximity of the Los Angeles River to the project area is also an indicator of the presence of Native American villages and today's freeways follow prehistoric travel routes and due to the lack of development in Elysian Park, there is a high potential for unrecorded sites." Mr. Morales requested that consultation with him be continued as the project develops and he also recommended monitoring during construction.

Mr. Andrew Salas replied via email on May 7, 2012, and via letter on May 20, 2012. Mr. Salas and the Gabrieleno Band of Mission Indians (who he represents) consider the project APE to be a portion of their traditional tribal territory. He specifically states in his letter of May 20, "We the Gabrieleno Indians, once occupied the now greater Los Angeles area with many villages located in and around downtown Los Angeles. One of our most prominent villages, Yangna, was located just west of this site. We consider this area to be potentially full of cultural resources that have yet to be found. We are requesting to protect our potential resources by having one of our experienced and certified Native American monitors to be on site during all ground disturbances. We would like to request participating in the consultation process." (See Appendix B for the complete letter dated May 20, 2012.)

Mr. Robert Dorame responded via phone on June 20, 2012, and indicated that the "entire project area is sensitive and will need archaeological and Native American monitoring conducted for all ground disturbing excavations.

Mr. Sam Dunlap replied via email on June 21, 2012. Mr. Dunlap indicates in his letter that, "after a review of the information provided by your office it would appear that the proposed project has a possibility to impact historic and prehistoric archaeological material." Mr. Dunlap recommends "archaeological monitoring for subsurface construction activity and also a Native American monitoring component to assist in the identification and assessment of any cultural material that may be encountered. Since the proposed project is within the traditional tribal territory of the Gabrielino Tongva Nation, I also request that the Native American monitor be selected from our tribal group."

A second round of Native American contact letters were mailed on April 23, 2013, to each group or individual provided on the updated contact list provided by the NAHC on April 17, 2013. These included the nine original contacts, as well as Conrad Acuna of the Gabrielino-Tongva Tribe. This letter described the proposed project, including revisions to the original project description for the Elysian WRP. Follow-up phone calls were made to each party on May 17, 2013. One response was received, from one party as described below.

Mr. Andy Salas replied via email on April 27, 2013. Mr. Salas indicates in his email that, "the proposed project is within a highly culturally sensitive area known villages of our Kizh Nation and in order to project our resources we're requesting one of our experienced [and] certified Native American monitors to be on site during all ground disturbances." Mr. Salas goes on to state that "the NAHC is only aware of general information on each California N[ative] A[merican] Tribe they are NOT the 'experts' on our Tribe. Our Elder Committee [and] Tribal Historians are the experts and is the reason why the NAHC will always refer contractors to the local tribes." In addition, Mr. Salas requests that his office be contacted regarding the project to coordinate the use of a Native American monitor.

Friends of Elysian Park

The Friends of Elysian Park group is also involved in the consultation process; however, their input is being solicited directly by the LADWP and the EPA. It is understood that Friends of Elysian Park will be participating and making recommendations regarding the design of the proposed non-potable water pumping station, the recycled water pumping station, and the forebay and recycled water tanks.

METHODS

SURVEY METHODOLOGY

Cultural Resources Pedestrian Survey

While several previous archaeological surveys were conducted within the vicinity of the project area, the present APE was not previously subject to survey. A cultural resources field survey of the project area was conducted by James Wallace and Linda Kry on May 8, 2012, and by Tim Harris and Linda Kry on April 2, 2013. Pedestrian survey was conducted within all accessible portions of the APE, including the locations of the proposed potable and recycled water pipelines, the non-potable and recycled water pumping stations, and the recycled water storage tank (see Figure 3). In areas with greater than 30 percent grade, heavy road traffic, and/or dense vegetation, windshield survey was conducted in lieu of pedestrian survey. Areas with grade of 30 percent or greater were considered inaccessible for purposes of pedestrian survey. The cultural resources survey included identification of archaeological and historic architectural resources.

Documentation

Cultural resources identified during the surveys were documented on appropriate Department of Parks and Recreation (DPR) 523 forms. These included a Primary Form (Form 523A) and Location Map (Form 523J), at a minimum. More complex resources required a District Record (DPR 523D), Archaeological Site Record (Form 523C), and a Sketch Map (Form 523K). Sketch maps included a site datum and features, artifacts concentrations, and other cultural elements. Resource locations were determined using a Global Positioning System unit. All completed DPR site forms will be sent to the SCCIC for the assignment of permanent numbers in the state inventory system prior to finalizing this report. DPR forms are included in this report in Appendix C (confidential).

RESULTS

Project cultural resource specialists performed pedestrian and windshield surveys of the APE on May 8, 2012, and on April 2, 2013. The survey area included the proposed locations for the potable and recycled water pipelines, the non-potable and recycled water pumping stations, and the forebay and recycled water storage tanks (see Figure 3). Windshield survey was conducted in areas that had a grade greater than 30 percent, heavy road traffic, and/or dense vegetation as these areas could not be accessed for pedestrian survey. Pedestrian survey was conducted in all other areas within 40 feet on each side of the proposed pipelines and the proposed location of the forebay tank, recycled water storage tank, the booster pump, the recycled water pumping station, and the non-potable water pumping station. Areas that could not be surveyed with the Elysian Park WRP include areas of steep grade. The goals of the survey were to identify any previously recorded or previously unknown cultural resources within the survey area and to evaluate potential for any buried resources. All observed ground soil was medium compacted, brown coarse-grained sand with silt and poorly sorted.

SURVEY OBSERVATIONS

The proposed recycled water pipeline would begin northeast of Elysian Park on Dorris Place, on the west side of the Los Angeles River in the Elysian Valley Neighborhood. Pedestrian survey was conducted along Dorris Place (Figure 17), Blake Avenue (Figure 18), Riverdale Avenue (Figure 19), and the Los Angeles River Bike Path. This portion of the project APE is developed with paved street surfaces. Dorris Place is a residential street; located adjacent to the APE are a number of historic-era homes and a large elementary school (Figure 20) that is also historic in age. Previous research by Gumprecht (1999:72; see Figure 11) suggests that the course of Chavez Ditch, which was part of the historic Los Angeles zanja system, crossed Dorris Place just north of the present-day intersection with Riverside Drive. No evidence of this water conveyance feature was observed during pedestrian survey. No archaeological sites or built resources historic in age were observed within this portion of the APE.

Figure 17. Dorris Place, View Towards Northeast.

Figure 18. Blake Avenue, View toward South

Figure 19. Riverdale Avenue, View toward East

Figure 20. Dorris Place Elementary School, View Towards Northwest.

The APE crosses I-5 to the southwest of the Elysian Valley neighborhood and continues along Stadium Way within Elysian Park. Just south of I-5, the APE follows a utility road to reach Stadium Way approximately 700 feet to the southwest of the proposed recycled water pumping station. Pedestrian survey was conducted along the access road and at the proposed location of the forebay tank, and the recycled water and non-potable water pumping stations. The area is densely vegetated with much mechanical disturbance from road construction as well as erosion processes. Wooden pillars and planks have been installed for erosion control and to prevent runoff onto the access road (Figure 21). The proposed recycled water pumping station would be located at the end of the utility road. An existing utility structure (Figure 22) is located within the proposed location for the recycled water pumping station. The age of the structure is unknown but is likely from the modern era, and no identification of the structure was present.

Previous research by Gumprecht (1999:72) has suggested that the course of a Los Angeles Water Company ditch, which was a part of the historic Los Angeles *zanja* system, may have crossed the proposed location of the recycled water pipeline east of Stadium Way, intersecting the access road. No evidence of an east-west-trending historic water conveyance feature was observed during the survey.

The proposed location of the recycled water pipeline was surveyed by vehicle along Stadium Way south from the utility road leading to the recycled water pumping station to the intersection of Elysian Park Drive. From the intersection of Stadium Way and Elysian Park Drive, the recycled and potable water pipelines would follow Angels Point Road south to the area known as Angels Point. Along this road heading south from Stadium Way, much of the area east and west

Figure 21. Wooden Pillars and Planks, View Towards Southwest.

Figure 22. Existing Pump Station, View Northeast.

of the road is densely covered in vegetation with a grade greater than 30 percent. These areas have been heavily altered by mechanical excavation and slope cutting for the road and various pipelines. At the southwest end of Angels Point Road, as the road changes to a north-south-trending direction near the picnic area, a concrete wall (Figures 23 and 24) is located 30 feet northeast of the road. The wall is 20 feet long, 3.5 feet high, and 1 foot wide. It is constructed of coarse-grained cement mortar and cement blocks. It appears to be constructed for erosion control to prevent runoff onto the road. The wall does not appear to be historic and does not have any indicators of age. The surrounding area is densely vegetated with heavy disturbance from underground pipes and erosion control.

South and east of the proposed recycled water pipeline, approximately 10 to 20 feet from Angels Point Road (Figure 24) towards the base of the hill, is a southeast-facing slope greater than a 30 percent grade. This downward slope leads to the Los Angeles Police Academy complex to the southeast and the Elysian Park picnic recreational area to the south. To the north and west of the proposed recycled water pipeline, the park is densely vegetated and undeveloped, but heavily altered by mechanical disturbance and erosive processes. Ground soil visibility is less than 10 percent due to dense vegetation including grasses, weeds, conifers, and various vines. No archaeological sites or historic built resources were observed within the Angels Point Road portion of the APE.

Figure 23. North Façade of Concrete Wall, View Southeast.

Figure 24. Close-up of Concrete Wall North Façade.

Figure 25. Angels Point Road View Towards Northeast.

The proposed 2 million-gallon recycled water tank would be located on the hilltop northwest of Angels Point Road near the intersection with Park Road. This area was inspected by pedestrian survey. The hill slope appears to be heavily disturbed by mechanical excavation. Approximately 6 to 12 feet of the slope has been vertically cut to create the sidewalk and paved road. Approximately 100 feet north of Elysian Park Drive is an existing 500,000-gallon water tank (Figure 26) and water pipe features that will be demolished as part of this proposed project. This steel water tank, measuring 65 feet in diameter and 21 feet high, was designed in 1968. It replaced an earlier 52-foot concrete tank in the same location (Los Angeles Board of Public Works 1968). While this structure is now 45 years old, it is a modern utility structure built using standard construction methods. Because of this, it was not recorded on a DPR 523 form. Ground visibility in the vicinity of the existing water tank and water pipe features was less than 30 percent because of dense vegetation, including intrusive weeds and grasses. Modern trash littered the ground. Areas that had soil ground visibility demonstrated heavy rodent and mechanical disturbance as well as erosive processes.

Figure 26. Existing 0.5 MG Steel Water Tank, View Southwest.

West of Stadium Way, a proposed booster pump will be constructed at the location of an existing pump station (Figure 27) that is approximately 200 feet southwest of the intersection of Elysian Park Drive and Stadium Way, within the Chavez Ravine Arboretum (LAHCM No. 48). From this booster pump, the proposed potable water pipeline follows Elysian Park Drive to the entrance of the Japanese gardens and Grace E. Simons Lodge parking lot (Figure 28). The proposed potable water pipeline continues along a small paved utility road that is located at the eastern extent of the Japanese gardens (Figure 29). It continues north from the Japanese gardens along a fire road (Figure 30) located between Elysian Park Drive and Park Drive. This area north of the gardens is heavily impacted by pedestrian traffic. Much of the trail has been cut from the hill slope. On the side of the hill, existing water pipes can be seen eroding from the slope (Figure 31). There also appears to be heavy rodent disturbance along the trail. The fire road north of Grace E. Simons Lodge is lightly vegetated and undeveloped. The existing pump station at the location of the proposed booster pump does not appear to be of historic age and has no known marker of identification. No cultural resources were observed within this portion of the project area.

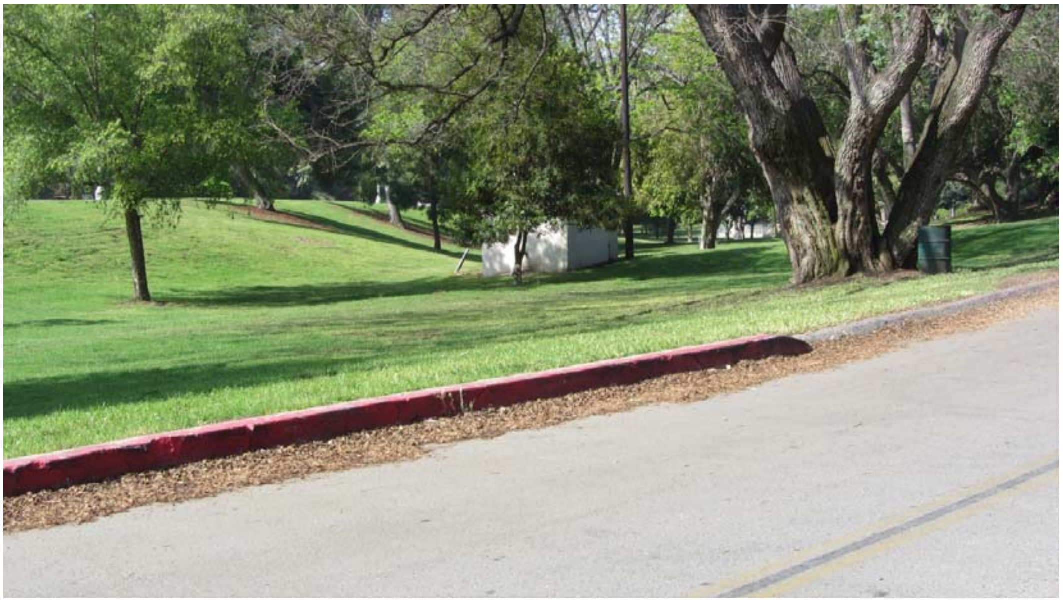


Figure 27. Location of Proposed Booster Pump, View Southwest.

The potable water pipeline will also extend eastward on Elysian Park Drive from the booster pump across Stadium way, through a vegetated slope, partially following Angels Point Road to Park Road, towards Elysian Fields. At the eastern terminus of the potable water pipeline is a public restroom facility (Figure 32) that the pipeline would feed to. Access on the vegetated slope was not possible due to the steep grade; regardless, the slope appeared to provide less than 10 percent ground visibility due to dense vegetation comprised of tall grasses, trees and shrubs. In all other areas along the pipeline route, ground visibility was less than 10 percent due to short grasses and development.

Within the APE, the cultural resources survey identified two built resources that are historic in age: one park (Elysian Park assigned Temporary Site Number EWRP-H-001) and one cultural landscape (Chavez Ravine Arboretum, LAHCM No. 48, a feature of Elysian Park). No archaeological sites were identified.

Figure 28. Parking Area for Grace E. Simons Lodge and Japanese Gardens, View Northwest.

Figure 29. Utility Road Adjacent to Japanese gardens, View Northeast.

Figure 30. Fire Road North of Japanese Gardens, View Northeast.

Figure 31. Exposed Water Pipes Adjacent to Fire Road, View North

Figure 32. Public Restroom Facilities, View East

SUMMARY, EVALUATION, AND RECOMMENDATIONS

SUMMARY

The survey of the study area did not result in the discovery of any previously unknown archaeological (historic or prehistoric) resources. However, Elysian Park, the oldest park in Los Angeles, is itself historic in age. In addition, research indicated that a portion of the park, the Chavez Ravine Arboretum, would be impacted by the project, was historic in age, and is an LAHCM-listed resource. A DPR 523 recordation for the park, including Chavez Ravine Arboretum as a component of the park, was completed as part of this assessment (Appendix C).

Elysian Park (EWRP-H-001)

Elysian Park was proposed in 1883 and dedicated in 1886 on a 746-acre piece of land west of the Los Angeles River (Gumprecht 1999). Reduced from its original size, Elysian Park currently covers approximately 604-acres, second only in size to Griffith Park. Elysian Park is the last remaining large piece of the original Pueblo of Los Angeles public land grant (Echo Park Historical Society 2008). The park includes numerous components, some of which have been designated LAHCMs (Table 3 and Figure 30), and others have been noted as points of interest associated with the park (Los Angeles Department of Recreation and Parks 2006). Chavez Ravine Arboretum was given further description below as it the only park feature or resource that overlaps with the project APE.

Table 3. Elysian Park Components

Monument or Point of Interest Name	Description and/or Designation Number	Date
Elysian Park	City Ordinance Number 218 dedicated Rock Quarry Hills as a public park, Freeholders Charter, Section 170, reaffirms protection of parklands in perpetuity	1886
Angels Point	Picnic area south of Los Angeles Police Academy	Unknown
Avenue of the Palms	Rare Specimen of wild dates planted on what is now Stadium Way north of Scott Avenue	1895
Barlow Sanatorium	Respiratory hospital. 2000 Stadium Way and 1300 Scott Avenue, LAHCM No. 504 1990	1902
Bishop Canyon	Picnic area/baseball fields	Unknown
Buena Vista Meadow	Picnic area	Unknown
Buena Vista Point	Portion of the park located south of Buena Vista Meadow	Unknown
Carob Tree Grove	Picnic area	Unknown
Chavez Ravine Arboretum	LAHCM No. 48 dedicated in 1967	1893
Elysian Fields	Picnic area/baseball fields	Unknown
Elysian Maintenance Office	Park office	Unknown
Elysian Reservoir	LADWP reservoir located within park boundaries.	1903

Monument or Point of Interest Name	Description and/or Designation Number	Date
Elysian Therapeutic Center	Recreation center	Unknown
Ficus Tree Grove	Picnic area	Unknown
Grace E. Simons Lodge	Facility created in honor of Grace E. Simons, the founder of the Citizens Committee to Save Elysian Park	1983
Grace E. Simons Memorial Sculpture	Memorial to Grace E. Simons the founder of the Citizens Committee to Save Elysian Park located at Angel's Point in Elysian Park	1994
Jones Memorial	Memorial wall	Unknown
Monticello De Leo Politti	Picnic area	Unknown
Palm Hill	Picnic area	Unknown
Point Grand View	Picnic area	Unknown
Police Academy	Los Angeles Police Department Training Facility	1925
Police Academy Rock Garden	LAHCM No. 110 dedicated in 1973	1937
Portola Trail Historical Monument	Portola Trail Camp Site, CHL 655	1769, designated: 1958
Radio Hill	Garden area	Unknown
Solano Canyon	Picnic area/community garden	Unknown
Victory Memorial Grove	WWI memorial	Unknown

The Chavez Ravine Arboretum was established in 1893 by the Los Angeles Horticultural Society with the planting of rare trees in the upper part of the ravine (LAT 1967). This arboretum was Southern California's first botanical garden and was designated a LAHCM by the city's Cultural Heritage Board in 1967. Original plantings included a cape chestnut, several Tipu trees, and a grove of rubber trees. The double row of Canary Island palms (*Phoenix canariensis*), now known as the Avenue of the Palms, was planted between 1895 and 1900. Numerous trees from the original arboretum plantings still survive, and the arboretum and Avenue of the Palms are considered "the most prominent and valuable historic vegetation resources in the Park" (Los Angeles Department of Recreation and Parks 2006:38). The grounds of the arboretum currently include two play structures, a restroom facility, a horseshoe pit, and individual and group picnic areas (Los Angeles Department of Recreation and Parks 2006:4).

REGULATORY SETTING

Cultural resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. State and federal laws use different terms for cultural resources. California state law discusses significant cultural resources as "historical resources," whereas federal law uses the

Source: ESRI 2012 Bing Maps Hybrid

0 500 1,000 1,500 2,000 Feet

AECOM

Figure 30

Elysian Park Points of Interest

terms “historic properties” and “historic resources.” In all instances where the term “resource” or “resources” is used, it is intended to convey the sense of both state and federal law.

National Register of Historic Places

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

All resources or properties nominated for listing in the NRHP must retain integrity, which is the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for nomination.

The Advisory Council on Historic Preservation’s regulation 36 CFR 800.5(a)(1) defines significant impacts as “adverse effects” under the following criteria:

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5[a][1]).

California Register of Historical Resources

The California Register of Historical Resources (California Register or CRHR) was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the National Register. The criteria are nearly identical to those of the National Register but focus on resources of statewide, rather than national, significance. The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process.

The criteria for eligibility of listing in the California Register are based on National Register criteria but are identified as 1 through 4 instead of A through D. To be eligible for listing in the California Register, a property must be at least 50 years of age and possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, historic resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

City of Los Angeles Historic-Cultural Monument

On the local level, a historical or cultural monument is eligible for listing as a LAHCM under Article 4, Section 22.130 of the City of Los Angeles Administrative Code if the resource meets a number of criteria. Section 22.130 indicates that a monument is

> any site … building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic, or social history of the nation, State, or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, State, or local history or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age.

EVALUATION

Potential for Archaeological Resources

No archaeological resources were identified within the project APE as part of the survey described above.

Prehistoric Site Potential

Review of previous investigations in the vicinity of the project and of the prehistoric context for the area provides an understanding of the potential for encountering prehistoric sites in the project APE. The important factors to consider in constructing such a model include elevation, soil conditions, proximity to water sources, and proximity to raw materials. In addition, subsequent land use is an essential factor in whether archaeological remains have been preserved.

As described in the context section of this report, the location of the prehistoric villages of *Yaangna*, and *Maawnga* have long been rumored or documented as being located within or near Elysian Park. Ethnographic evidence seems to indicate that the village of *Maawnga* was more than likely the village actually located within the park, "The Los Angeles Police Academy is located in the northern portion of Elysian Park, which is not a possible location for the Native American village of *Yaangna*. It is possible, however, that the local histories are actually referring to the village of *Maawnga*, which was reported to have been originally located within the *Rancho de los Felis*. This rancho originally encompassed Griffith Park and extended south to the northern portion of Elysian Park. The village of *Maawnga*, also recorded as *Maungna*, is believed to have been located *high on a bluff overlooking Glendale Narrows in the hills now occupied by Elysian Park*" (Gumprecht 1999:31).

The project site's location relative to the Los Angeles River would have provided access to important resources during all periods of prehistory. Subsequent land use has included some urban development in portions of the APE, but most of the study area lies within land that was set aside as Elysian Park in 1883. Park lands have subsequently been developed as a cultural landscape, and land use has been primarily recreational and related to utilities within the footprint of the project APE. It is possible that prehistoric resources could be buried beneath the surface within the park, especially in areas where development has included only minimal ground disturbance, or in areas where development (such as roads or pathways) may have effectively capped buried prehistoric resources.

Historic Period Site Potential

Since the late 19th century, most of the project APE has been located within Elysian Park. Park lands were set aside in an area formerly used for quarrying during the early development of Los Angeles, and the location of the APE has been used primarily as park lands since 1883. It is possible that buried historic sites related to the early use as a quarry or park use could exist buried beneath the surface of the park, especially in areas where development has included only minimal ground disturbance, or in areas where development (such as roads or pathways) may have effectively capped buried historic resources.

In addition, there is potential for encountering historic water conveyance features related to the Los Angeles *zanja* system. Historic research suggests that the historic location of the Chavez Ditch crosses the path of the project APE near the intersection of Riverside Drive and Dorris Place. In addition, the historic location of a Los Angeles Water Company ditch crosses the path of the project APE south of I-5 and the recycled water pump station.

Resources Evaluation

Elysian Park derives its local and regional historical significance from its role as the first park in the city of Los Angeles. Since its establishment in 1886, Elysian Park has formed an important part of the downtown landscape and has played a significant role in the social life of the city. It has provided open space and served the recreational needs of the population within a rapidly changing urban setting. The vicinity of Elysian Park has also been the locus of hard-fought battles over development and land exchanges. Most notably, the eviction of Chavez Ravine residents in the 1950s and the construction of Dodger Stadium in 1962 were contentious moments in local history.

The significance of Elysian Park is at the local and state level. It is recommended eligible to the CRHR under Criterion 1 for its association with events that have made a contribution to the broad patterns of California's history and cultural heritage. Elysian Park is the oldest park in the city of Los Angeles and the only remaining portion of the Pueblo of Los Angeles Public Land Grant. The establishment of the park at the end of the 19th century reflects changing views of urban life and a desire to create open spaces within rapidly growing cities. Over the course of the past 125 years, Elysian Park has played an important role in the community, providing space in proximity to downtown for leisure and recreation activities. Elysian Park does not seem to be associated with the lives of persons important to the past (Criterion 2), nor does it embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Criterion 3). At present, there is no evidence that the park as a whole is likely to qualify for the CRHR under Criterion 4 for its information potential. The park may be eligible under Criterion 1 as a district, but the evaluation of individual resources as potential contributing elements to such a district is not possible as part of the present effort, as most of these resources lie outside the present project area. The portions of the park that are encompassed in the APE for the present project still retain their integrity and contribute to the overall significance of the park.

In addition, Elysian Park is also recommended eligible as a LAHCM for its significance to local history. Within the park, the Chavez Ravine Arboretum is considered to have local level significance and, as such, is listed as Historic-Cultural Monument No. 48.

Elysian Park does not seem to meet the criteria for inclusion in the NRHP. It is not associated with events that have made broad contributions to national history (Criterion A). It is not associated with the lives of significant persons (Criterion B). It does not embody the distinctive characteristics of a time, period, or method of construction, nor does it represent the work of a master (Criterion C). At present, there is no evidence that the park has yielded or is likely to yield information important in history or prehistory that would qualify it for the National Register under Criterion D.

Integrity

Elysian Park has been subject to numerous alterations over the past 125 years, including land exchanges and development projects resulting in a reduction in the amount of open space within the park (Anderson et al. 1990). Areas that were originally incorporated into the park as open space have been developed for diverse uses. Barlow Hospital was built to the southwest of the park in 1902. The Los Angeles Police Revolver and Athletic Club Pistol Range (now the Los Angeles Police Academy) was built in 1925. The city built Figueroa Street through Elysian Park in 1930 and in 1940 the state built a second road (the Pasadena Freeway) that transects the park. In 1959, the Los Angeles Dodgers acquired 315 acres of land within Chavez Ravine, and Dodger Stadium was built in this location in 1962. The United States Naval and Marine Corps Reserve was built in 1940 by the Works Progress Administration. It is located south of Barlow Hospital on Stadium Way.

Several city facilities are also located within the park. LADWP facilities include a water tank and the Elysian Park Reservoir. The City radio tower was constructed in 1940 in an area known as "Radio Hill." This tower serves city agencies including the police and fire services. From 1966 to 1969, the Department of Sanitation operated a landfill in Bishop Canyon. In the 1960s, Chavez Ravine Road was converted to Stadium Way, and improvements to the road were made to increase the road's capacity and facilitate better access to Dodger Stadium.

Developments that have occurred within and adjacent to Elysian Park detract somewhat from its integrity in that the park does not appear exactly as it did when it was initially established. However, many of the developments that have occurred on park land have served important municipal functions, and as such the history of the park reflects the changing needs of a growing metropolis. While the size of the park has decreased by approximately 142 acres, many portions of the park have remained intact. Furthermore, the feel of the park remains largely the same. It is composed mostly of natural landscape with native vegetation, interspersed with some landscaped areas such as the Avenue of the Palms and the Chavez Ravine Arboretum. It continues to serve the recreational needs of the city, and several historically significant components of the park hold local importance, such as the first botanical gardens in Southern California, the Chavez Ravine Arboretum. The park retains overall integrity despite some changes over the years. Most changes that have been made are in keeping with the intent and use of the park.

RECOMMENDATIONS

Archaeological Recommendations

The project area lies in proximity to the original Pueblo of the City of Los Angeles, as well as the Los Angeles River. The location of the project, Elysian Park, is the oldest city park in Los Angeles and has a wide and varied history of its own. Research revealed the possible proximity of the Native American village *Maawngna* to the project area, as well as over 100 years of history of the Elysian Park and the Chavez Ravine Arboretum. In addition to potentially uncovering Native American cultural resources, the possibility of unearthing buried sites related to historic use of the project area is possible.

Based on the results of the archival research and the Sacred Lands File search, it is possible that prehistoric and/or historic archaeological resources may be present within the Project area. Such resources may lie beneath the surface obscured by pavement or vegetation. Because the potential to encounter archaeological resources exists for the proposed project, the construction contractor or LADWP will retain and use a qualified archaeological monitor, working under the supervision of a qualified archaeological Principal Investigator during all ground disturbing activities, including, but not limited to, trenching, grading, drilling and excavation of launching and receiving pits for microtunneling. The archaeological monitor shall conduct worker training prior to the initiation of ground disturbing activity in order to inform workers of the types of resources that may be encountered and apprise them of appropriate handling of such resources. If any prehistoric archaeological sites are encountered within the APE, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The archaeological monitor shall have the authority to redirect construction equipment in the event potential archaeological resources are encountered. In the event archaeological resources are encountered, the client will be notified immediately and work in the vicinity of the discovery shall halt until appropriate treatment of the resource is determined by the qualified archaeological Principal Investigator in accordance with the provisions of Section 106 of the NHPA and CEQA.

The Elysian Valley neighborhood north of the park also has an approximate 85-year history as a working class neighborhood. There is some potential for buried archaeological resources, including historic street surface, within the APE along Dorris Place. In addition, a component of the Los Angeles *zanja* system known as the Chavez Ditch was historically mapped near the present-day intersection of Riverside Drive and Dorris Place. Ground-disturbing activity for the proposed recycled water pipeline, including launching and receiving pits associated with microtunneling, should be monitored by a qualified archaeological monitor. The location of the launching and receiving pits will be excavated in a controlled manner with a flat blade for the first 5 feet, under the direction of the archaeological monitor. This will allow the monitor to assess whether any archaeological evidence of the historic water conveyance feature remains.

Built Environment Recommendations

Booster Pump

The booster pump and a portion of the potable water pipeline are proposed to be located within the grounds of the Chavez Ravine Arboretum. The following recommendations suggest preservation of the arboretum landscape during design and construction phases. In general, the design should be consistent with the historic landscape of the arboretum and should be carried out in compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties (National Park Service 2012).

The installation of the booster pump and potable water pipeline within the arboretum shall be designed so as not to impact any of the tree plantings within the historic arboretum. Park staff with knowledge of the trees and their root systems should be consulted in order to avoid any impacts to trees or root systems that may lie within or adjacent to the project APE. Lawn (grass) that will be removed during the trenching construction process should be replaced in the postconstruction phase.

If possible, it may be preferable to expand or adapt the existing pump station to meet the needs of the new potable water pipeline. If it is necessary to build a separate structure, visual impacts to the historic landscape design of the arboretum can be reduced if the new pump station building is similar in design and style to the existing pump station. The size and height of the structure should be minimized to the extent possible, and should incorporate a sensitive design including the color and construction style of the structure in order to create a low impact to the surrounding landscape.

Interested parties such as the Citizens Committee to Save Elysian Park should be contacted to solicit input on the design of the booster pump.

Recycled Water Tank

The recycled water tanks proposed to be located at the intersection of Angels Point Road and Park Road shall be designed so as to be visually consistent with the landscape of Elysian Park. Currently, there is a steel 0.5-MG water tank, measuring 65 feet in diameter and 21 feet high, that was designed in 1968. It replaced an earlier 52-foot concrete tank in the same location (Los Angeles Board of Public Works 1968). While this structure is now 45 years old, it is a modern utility structure built using standard construction methods. Because of this, it was not recorded on a DPR 523 form. The proposed 2-MG recycled water tanks will replace the existing 0.5-MG steel water tank in this location and, as part of the visual mitigation measures for the proposed project, the tank is proposed to be painted a neutral color and to be visually obscured by vegetation. In general, the design should be consistent with the historic landscape of the park and should be carried out in compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties (National Park Service 2012). Interested parties such as the Citizens Committee to Save Elysian Park should be contacted to solicit input on the design of the forebay and recycled water storage tanks.

Forebay Tank and Non-Potable and Recycled Water Pumping Stations

The forebay tank and the non-potable and recycled water pumping stations will be designed to be visually consistent with the landscape of Elysian Park and should be carried out in compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties (National Park Service 2012). The forebay tank and pumping stations will be located adjacent to an existing pumping station in this location and, as part of the visual mitigation measures for the proposed project; the tank and station housing will incorporate sensitive design, be painted a neutral color, and be visually obscured by vegetation in order to create a low impact to the surrounding landscape. Interested parties such as the Citizens Committee to Save Elysian Park should be contacted to solicit input on the design of the forebay tank and the non-potable and recycled water pump stations.

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APPENDIX A

RESUMES

Heather Gibson, PhD, RPA

Archaeologist

Education

Ph.D., with distinction, Anthropology, Syracuse University, Syracuse, NY, 2007
M.A., Anthropology, Syracuse University, Syracuse, NY, 2004
B.A., magna cum laude, Anthropology and French, University of Notre Dame, 1998

Professional Affiliations

Member, Society for Historical Archaeology
Member, Society for California Archaeology
Member, Society for American Archaeology

Certifications

Register of Professional Archaeologists

Training

National Preservation Institute, Section 106 Basics

Grants + Awards

2008, Doctoral Prize, Syracuse University
2008, Certificate in University Teaching, Syracuse University
2007–2008, Post-doctoral Fellowship, Mellon French Atlantic History Group, McGill University
2006, Maxwell Dean's Dissertation Fellowship, Syracuse University
2004–2005, Fulbright-Hays Doctoral Dissertation Research Abroad (DDRA) grant, US Department of Education
2001–2004, 2005–2006, University Fellow, Syracuse University

Heather Gibson is an anthropologically trained archaeologist with 10 years of research experience. Her archaeological experience includes archival research, surveys, and excavations at sites in the United States and Caribbean. As a historical archaeologist who has worked on a range of 18th, 19th, and 20th century sites, Dr. Gibson has deep knowledge of historic material culture. She has served as project archaeologist and principal investigator on cultural resources and environmental projects in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act for public and private sector clients including a range of local and federal agencies. Dr. Gibson meets the Secretary of the Interior's professional qualification standards in both history and archaeology. She has been awarded numerous grants for her research and is the author of journal articles and papers presented at national and international conferences.

Project Experience

Los Angeles Department of Water and Power, Van Norman Complex Water Quality Improvement, Phase I Cultural Resources Assessment, Los Angeles, California

Project archaeologist and technical report co-author for Phase I archaeological study in compliance with CEQA. Conducted background research and analysed impacts of proposed facility upgrades to cultural resources.

City of Los Angeles Harbor Department, WWL Vehicle Cargo Terminal at Berths 195-200A Phase I Archaeological Study, Los Angeles County, California

Project archaeologist and technical report co-author for Phase I archaeological study in compliance with CEQA. Conducted background research, developed historic context, and analysed impacts of proposed facility upgrades to cultural resources.

SWCA Environmental Consultants/County of Los Angeles, Los Angeles Plaza Cemetery Summary Report, Los Angeles, California
Primary author and project manager for summary report examining artifact assemblage excavated from 19th century historic cemetery site. Provided review of existing project records and descriptive summary of historic material culture; made recommendations for further work.

Clark Construction, Long Beach Courthouse Archaeological and Paleontological Monitoring, Long Beach, CA
Principal Investigator for monitoring and data recovery investigation for private developer. Archaeological monitoring conducted for construction activity related to new courthouse complex. Archaeologists identified late 19th and early 20th century features and isolated artifacts. Responsibilities pertained to excavation of multiple historic features, including two privies, which were documented, removed, and evaluated for their significance under CEQA. Role included serving as field director for excavation and documentation of findings.

General Services Administration, Mary E. Switzer Building Site Improvements, Phase I/II Investigations, Washington, DC
Project archaeologist who provided technical support for geoarchaeological and combined Phase I/II archaeological studies for site where a buried 19th century foundation was identified. Coordinated with subconsultants conducting fieldwork and provided project management support. Coordinated archaeological studies with State Historic Preservation Office on behalf of the client.

SDG&E, Sunrise Powerlink Restoration Services , San Diego and Imperial Counties, California
Provided project management support, authored and reviewed site-specific restoration plans (SRP), and coordinated SRP writing team for the Sunrise Powerlink project, a 117-mile-long, 500-kilovolt transmission corridor. SDG&E has retained AECOM to provide mitigation, including habitat restoration, for temporary impacts to sensitive vegetation communities and temporary and permanent impacts to special-status plants, sensitive wildlife habitats, and jurisdictional wetlands and waters (including dry washes).

National Park Service, Eisenhower Memorial Environmental Assessment and Phase IA Archaeological Study, Washington, DC
Project archaeologist for memorial commission who conducted archival research, archaeological pedestrian survey, and analysis of potential impacts to archaeological resources for this NEPA and Section 106 project. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared corresponding Environmental Assessment sections. Prepared Phase IA archaeological report following District of Columbia guidelines for archaeological investigations and recommended subsequent steps to identify and evaluate resources and archaeological potential. Coordinated archaeological studies with State Historic Preservation Office on behalf of the client.

Los Angeles Unified School District, Central Los Angeles High School #9, Los Angeles, CA
Project archaeologist providing senior review, report content, and report editing for 19th century cemetery project. Project includes data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery in downtown Los Angeles, which were discovered during archaeological monitoring of the demolition and grading phases of construction at the Central Los Angeles Area New High School #9. The project team coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits; developed a mitigation plan incorporating the components related to the future disposition of remains, artifact curation, and commemoration; and conducted laboratory analysis of artifacts and human remains. A technical report documenting the history of the cemetery, its role in 19th-century Los Angeles, and the results of the osteological and artifact analysis is currently being prepared. Responsibilities included reviewing the technical report, drafting necessary sections to provide synthesis, and coordinating supplementary analysis necessary for project completion.

Los Angeles Department of Water and Power, Van Norman Chloramination Stations Nos. 1 and 2 Archaeological Monitoring and Assessment, Los Angeles, California
Provided senior review of technical report summarizing archaeological monitoring and assessment efforts related to construction of new chloarmination stations at water and power facility. Archaeological and Native American construction monitoring conducted as mitigation of project impacts in compliance with CEQA. Identified, recorded, and evaluated three archaeological sites.

City of Los Angeles Department of Public Works, Alameda Street/Spring Street Arterial Redesign Phase II Archaeological Resource Assessment, Los Angeles, CA
Archaeological monitoring was conducted for this project during construction activities related to widening of Alameda Street. During the course of monitoring, archaeologists discovered historic archaeological resources related to the late 19th and early 20th century use of the area. Resources discovered included a segment of the original Zanja Madre irrigation system, railroad elements, and the original brick pavement of Alameda Street located under the present roadway. Mitigation in compliance with CEQA was developed to address each of the resource types, and included documentation, avoidance, and removal. As project archaeologist, conducted analysis of results and authored final report. Report documents the construction monitoring, describes the features and artifacts that were recovered, and evaluates their historic significance.

District of Columbia Department of Transportation, I-395 Air Rights Environmental Assessment, Washington, DC
Project archaeologist for National Environmental Policy Act (NEPA) and Section 106 project. Conducted archival research, archaeological pedestrian survey, and analysis of potential impacts to archaeological resources. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared Assessment of Effects report and

Environmental Assessment sections. Coordinated archaeological studies with State Historic Preservation Office on behalf of client.

City of Los Angeles Department of Public Works, Aiso Street Parking Facility Archaeological Assessment, Los Angeles, CA
Archaeological and paleontological monitoring was conducted for this project during construction activities related to the Aiso Street Parking Facility. During the course of the construction project, archaeologists discovered seven 19th and 20th century features and more than 100 isolated artifacts. The features were documented, removed, and evaluated for their significance under CEQA. Tasks as project archaeologist included analysis of results and authoring final report. Report documents the construction monitoring, describes the features and artifacts that were recovered, and evaluates their historic significance. Report in progress.

California High Speed Rail Authority, California High-Speed Train, Fresno to Merced Cultural Resources Inventory, Fresno and Merced Counties, CA
Project historian for architectural history survey. Conducted built environment fieldwork to record and evaluate historic resources for railway alignment and affiliated parcel acquisitions. Evaluated resources within the Area of Potential Effects to recommend eligibility to the National Register of Historic Places and California Register of Historic Resources.

Tessera Solar, Imperial Valley Solar Project, Imperial County, CA
Project archaeologist for Bureau of Land Management (BLM) Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 6,500-acre solar power project on BLM land under a Fast-Track American Recovery and Reinvestment Act funding schedule. AECOM services included field investigations, preparation of cultural resource documents, and Section 106 consultation. This project included extensive records searches and data management, multiagency coordination, and consultation involving BLM and the California Energy Commission. As designed, the project was crossed by the Congressional-designated Juan Bautista de Anza National Historic Trail corridor. Responsibilities pertained to the portion of the project area that overlays the National Historic Trail corridor. Consultation on the disposition of the trail corridor involved hiring subconsultants to do specialized analysis; summarizing consultant findings for presentation to BLM and consulting parties (State Historic Preservation Office, National Park Service, and National Trust for Historic Preservation, and others); and drafting a synthetic technical report.

National Park Service, Butterfield Overland Trail Environmental Assessment, AK, AR, CA, MO, NM, OK, TX
Project archaeologist for special resource study to evaluate feasibility of adding the Butterfield Overland trail as a national historic trail. Role includes background research, analysis of existing conditions, and assessment of impacts to archaeological resources. Prepared archaeological resources sections for EA.

National Park Service, Four Trails Feasibility Study Environmental Assessment, CA, CO, IA, ID, KS, MO, NE, OK, OR, NV, UT, WA, WY
Project archaeologist for feasibility study for revisions to the California, Mormon Pioneer, Pony Express, and Oregon National Historic Trails. Role includes background research, analysis of existing conditions, and assessment of impacts to archaeological resources. Prepared archaeological resources sections for EA.

National Park Service, Vietnam Veterans Memorial Education Center Environmental Assessment, Washington, DC
Project archaeologist for National Environmental Policy Act (NEPA) and Section 106 project. Conducted background research and analysis of archaeological sensitivity for project APE. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared Environmental Assessment archaeological resources sections. Coordinated archaeological studies with State Historic Preservation Office on behalf of client.

Selected Reports

Not Dead But Gone Before: The Archaeology of Los Angeles City Cemetery. In progress. AECOM Cultural Heritage Publication No. 4, H. Gibson and S. Dietler, editors. Prepared for Los Angeles Unified School District. AECOM.

Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project, City of Los Angeles, California, with S. Dietler and L. Kry. 2012. Prepared for Los Angeles Department of Water and Power. AECOM.

Phase I Archaeological Investigation, WWL Vehicle Cargo Terminal at Berths 195-200A, Los Angeles County, California, with S. Dietler. 2012. Prepared for City of Los Angeles Harbor Department. AECOM.

I-395 Air Rights, Section 106 Assessment of Effects, Washington, D.C., with S. Dyer-Carroll and C. Dolan. 2011. Prepared for District of Columbia Department of Transportation and Federal Highway Commission. AECOM.

Underneath Alameda Street: Archaeological Monitoring Report for the Alameda Street/Spring Street Arterial Redesign Phase II Project, City of Los Angeles, California, with S. Dietler. 2011. Prepared for City of Los Angeles, Department of Public Works. AECOM.

Archaeological Assessment for the Aiso Street Parking Facility Project, City of Los Angeles, California, with L. Kry and S. Dietler. 2011. Prepared for City of Los Angeles, Department of Public Works. AECOM.

Potomac Annex Navy Hill Regulatory Framework & Strategy, Site Context, and Archaeological Considerations, with C. Dolan. 2011. Prepared for US Department of State and KCCT. AECOM.

Phase IA Archaeological Assessment of the Dwight D. Eisenhower Memorial Design Concept, Washington, D.C., with C. Dolan, S. Dyer-Carroll, and S. Bemis. 2011. Prepared for National Park Service and US General Service Administration. AECOM.

Publications

Gibson, Heather. 2010. Review of *Building the Devil's Empire,* by S. Dawdy. *Historical Archaeology,* Vol. 44, No. 2.

Gibson, Heather. 2009. Domestic Economy and Daily Practice in Guadeloupe: Historical Archaeology at La Mahaudière Plantation. *International Journal of Historical Archaeology,* Vol. 13, No. 1.

Gibson, Heather. 2007. *Daily Practice and Domestic Economy in Guadeloupe, FWI: An Archaeological and Historical Study*. Ph.D. Dissertation, Syracuse University, Syracuse, New York.

Kelly, Kenneth, and Heather Gibson. 2005. Plantation Village Archaeology in Guadeloupe, French West Indies. In *Proceedings of the XX International Congress of Caribbean Archaeologists*, edited by G. Tavarez and M. Garcia Arevalo. Museo del Hombre Dominicano and Fondacion Garcia Arvela, Santo Domingo.

Papers + Presentations

The Search for a Historic Trail (with Rebecca Apple), Society for American Archaeology, 76th Annual Conference, Sacramento, California, 2011.
Caribbean Contradictions: Entangled Networks, Slavery, and the French West Indies (with Kenneth Kelly), American Anthropological Association, 109th Annual Meetings, New Orleans, Louisiana, 2010.
She Was Always Treated with Benevolence: Understanding Cruelty and Power on a Guadeloupean Plantation, 42nd Annual Society for Historical Archaeology Conference, Toronto, Ontario, 2009.

The View from the Ground: Archaeological Perspectives on Creolization, Mellon French Atlantic History Group 4th Workshop, "Creole Histories – Histoires Créoles: Practice and Poetics," 2008.
"Getting by" at La Mahaudière: Material Culture and Household Economies on a Guadeloupean Plantation, Society for American Archaeology 73rd Annual Conference, Vancouver, British Columbia, 2008.

French Ceramics from La Mahaudière Plantation: Understanding Foodways and Consumption in Guadeloupe, 40th Annual Society for Historical Archaeology Conference, Williamsburg, Virginia, 2007.

Domestic Economies of Guadeloupean Plantation Laborers: Production and Consumption at *La Mahaudière,* 21st International Congress of Caribbean Archaeologists, Port-of-Spain, Trinidad, 2005.

Domestic Economy and Daily Practice in Guadeloupe: Historical Archaeology at La Mahaudière Plantation, 38th Annual Society for Historical Archaeology Conference, York, England, 2005.

Historical Archaeology of Slavery in Guadeloupe, French West Indies (with Kenneth Kelly), Ste. Genevieve Conference on French Settlements and Culture in North America and the Caribbean, Ste. Genevieve, Missouri, 2003.

Plantation Village Archaeology in Guadeloupe, French West Indies (with Kenneth Kelly), 20th International Congress of Caribbean Archaeologists, Santo Domingo, Dominican Republic, 2003.

Sara Dietler

Project Archaeologist/Paleontologist

Education
BA, Anthropology, San Diego State University, 1998
Minor, American Indian Studies, San Diego State University, 1998

Affiliations
Society for American Archaeology
Society for California Archaeology

Publications and Professional Papers
Dietler, S. 2000. Protohistoric Burial Practices of the Gabrielino as Evidenced by the Comparison of Funerary Objects from Three Southern California Sites. In Proceedings of the Society for California Archaeology, Volume 13. Judyth Reed, Greg Greenway, and Kevin McCormick eds. Society for California Archaeology. Fresno.

Strauss, M. and S. Dietler 2006. Bones, Beads and Bowls: Variation In Habitation And Ritual Contexts At Landing Hill. Oral Presentation at the Society for California Archaeology Meeting, Ventura, California, April.
Dietler, S. 2008. Digging Deep: Archival Research into the History of Los Angeles' City Cemetery. Oral Presentation at the Society for American Archaeology (SAA) Meeting, Vancouver, B.C., Canada, March.

Dietler, S. 2008. Digging Deep: Archival Research into the History of Los Angeles' City Cemetery. Oral Presentation at the Society for California Archaeology Meeting, Burbank, California, April.

Strauss, M., S. Dietler, and C. Ehringer. 2008. Death Lends a Hand: Archaeological Excavations of Los Angeles's City Cemetery. Oral paper presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Ehringer, C., L. Kry, S. Dietler, and M. Strauss, 2008. After the Bones Have Gone: The Role of Personal Effects in Identifying Unmarked Historic Burials. Poster presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Presentations and Lectures
2005. Guest lecturer at Santa Monica Community College regarding career opportunities in cultural resources management, Santa Monica, CA.

2006. Guest lecturer at Santa Monica Community College regarding early Los Angeles history and cemetery research and excavation, Santa Monica, CA.

Sara Dietler is a project archaeologist and paleontologist with fifteen years of experience in cultural resource management and is also a cross-trained paleontological monitor and supervisor. She has worked for more than ten years in the Los Angeles area and participated in both historic and prehistoric research throughout Southern and Central California. Since joining AECOM's Los Angeles office, she has specialized in the development history of downtown Los Angeles and co-authored technical reports on numerous projects relating to this subject.

As lead cultural resource manager for the Los Angeles office, Sara directs prehistoric and historic archaeological field and research projects, built environment projects, and provides paleontological support for many clients in Southern California, including public agencies and private developers. She manages a staff of cultural resources specialists who conduct various types of cultural resources compliance including Phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Sara prepares technical documents in support of CEQA and Section 106 compliance as well as cultural resources components for General and Specific Plans.

City of Los Angeles BOE, Main Street Archaeological/Paleontological Monitoring and Assessment, Los Angeles, CA
Directed the archaeological and paleontological monitoring of a police parking facility in downtown Los Angeles. Coordinated with the client and construction personnel throughout the project. Archaeological monitoring resulted in the identification of nineteen archaeological features. Completed the analysis of artifacts recovered and produced a technical report.

Clark Construction, Long Beach Courthouse Project, Long Beach, CA
Directing the paleontological and archaeological monitoring for the

construction of the New Long Beach Courthouse. Supervising monitors inspecting excavations up to 25 feet in depth. Nine archaeological features have been recovered to date. Will complete an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

South Bay Metro Green Line Extension Project, Los Angeles County, CA
Created survey and evaluation strategy for transportation project through metropolitan Los Angeles County in consultation with SHPO to meet Section 106 requirements. Prepared technical report for the evaluation of historical resources and the cultural resources portion of EIS/EIR, including mitigation measures for the treatment of evaluated historical resources. Assistant Project Archaeologist.

LACDPW, Alcazar Yard Historical Assessment, Los Angeles, CA
AECOM conducted a Phase I historical assessment in anticipation of the redevelopment of the Alcazar Yards. The project area is located on two parcels at 1537 Alcazar Street and at 2275 Alcazar Street in Los Angeles. Managed the project and assisted the architectural historian with background research. Project Archaeologist.

LADPW, First Street Trunkline Project, Los Angeles, CA
AECOM has conducted cultural resource monitoring of the First Street Trunkline installation during excavation. Construction has included excavations up to 25 feet in depth. Supervised cross-trained monitors inspecting for archaeological resources and fossils in marine terrace deposits in the Puente formation that is encountered during the deeper excavations. Will complete an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

LACDPW, Topanga Library Project, Topanga Canyon, CA
AECOM conducted archaeological monitoring during construction of the Topanga Library. Construction included the installation waterlines along the roadway outside of the main project area. Monitoring resulted in the discovery of materials associated with the recorded archaeological site CA-LAN-8. Directed cultural resource specialists in conducting archaeological testing of this site and worked closely with the LADPW to assist them in mitigating the effects of the project as well as coordinating with Caltrans who had oversight on the project. Resources were identified and evaluated for eligibility to the National Register of Historic Places.

LAUSD, Central Los Angeles High School #9, Los Angeles, CA
Conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During data recovery phase in connection with a 19th century cemetery located on-site, participated in locating of features, feature excavation, mapping and client coordination. Organized background research on cemetery including; genealogical, local libraries, city and county archives, other local cemetery records, internet and local fraternal organizations. Advised in lab methodology and set up, and served as project manager, contributing author and editor for the in-progress technical report.

LADWP, Lakeside Recreational Complex, Sylmar, CA
AECOM conducted a Phase I cultural resources evaluation of the historic-era Lakeside Debris Basin property including a California Register eligibility assessment for the facility itself and archaeological features identified as a result of the survey, and prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to CEQA requirements.

City of Los Angeles BOE, Temple Street Widening Project, Los Angeles, CA
AECOM conducted archaeological monitoring during the widening of Temple Street in downtown Los Angeles. Extensive coordination with general contractors was involved, as well as response to discoveries including and segment of the zanja irrigation ditch and a large historic refuse deposit to determine appropriate treatment and develop recommendations. At the completion of the monitoring phase, AECOM archaeologists analyzed the artifacts and features documented during excavation and prepared and archaeological resource assessment.

Thomas Properties, Metro Universal, North Hollywood, CA
Assisted in compiling a compendium of over seventy years of archaeological excavation and construction monitoring in and around the Campo historic site. Drafted appropriate mitigation for the archaeological resources within the scope of the proposed development. At the request of the client a Vision Plan for the Universal City property to the east of the project area was peer reviewed for consistency and appropriate mitigation to historical resources on that property and affects to the historical resources on the Metro Universal Project location.

LAUSD, Glassell Park Early Education Center and Affordable Housing Project, Los Angeles, CA
Conducted a Phase I study for the Glassell Park Early Education Center (EEC) and Affordable Housing Project adjacent to the existing Glassell Park Elementary School. Prepared a cultural resources study with findings and recommendations for further work, pursuant to CEQA requirements.

LAUSD, Belmont Primary Care #11, Los Angeles, CA
Conducted on-site monitoring and investigation of a historic trash deposit exposed during grading. Assisted in completing and presenting background research on the property in order to contextualize the artifact findings. Conducted historic map research, as well as visiting local libraries, and city and county archives.

LACDPW, Olive View Medical Center Emergency Services Expansion, Los Angeles, CA
Participated in a Phase I cultural resources evaluation of a portion of the Olive View Medical Center campus in Sylmar. Assisted in research to support a California Register eligibility assessment of the MacClay Highline, an underground spur of the Los Angeles Aqueduct.

LACDPW, Olive View Medical Center Building 403 Cultural Evaluation
Los Angeles, CA
Completed the historic architectural survey and assisted the architectural historian in evaluating a historic ward building on the property of the Olive View Medical Center campus in Sylmar that was slated for demolition.

ExxonMobile, Chevron Station 31 Connection Project Fellows, CA
Directed a Phase I cultural resources evaluation of an undeveloped property in Kern County. Conducted an assessment of resources discovered during survey and prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to CEQA requirements.

Conejo Recreation and Park District,
Lang Ranch, El Monte, CA
Participated in the Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits. Assisted in the preparation of an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

San Gabriel & Lower Los Angeles
Rivers and Mountains Conservancy, Woodland Duck Farm Project, El Monte, CA
Completed the Phase I investigation, including a historic structure and archaeological survey of the site of the former historic Woodland Duck Farm. Researched the history and background of the farm itself, assisted the Architectural Historian in the analysis of structures related to the duck farm and co-authored the technical report.

LACDPW, Santa Anita Reservoir, Los Angeles County, CA
Completed the Phase I investigation, including a historic structure and archaeological survey of the site of the Santa Anita Dam, Reservoir and Complex. Researched the history and background of the farm itself, assisted the Architectural Historian in the analysis of structures related to the dam complex and co-authored the technical report.

Western Bypass Bridge, Temecula, CA
Oversaw Phase I investigation including a record search and survey of the project area. Completed all documentation required for MND document.

John Laing Homes, Hellman Ranch Monitoring, Orange County, CA
Served as Lab Director for the final monitoring phase of the project, cataloging and analyzing artifacts recovered from salvage monitoring and test units placed in relation to recovered intact burials. Conducted microscopic analysis of small items such as bone tools and shell and stone beads. Directed lab assistants and oversaw special studies including the photo-documentation of the entire collection. Completed a section reporting on the results of the bead and ornament analysis in the final report, which was published as part of the AECOM technical series.

Twining Laboratories, Inc., Home Depot Monitoring – Lake Elsinore, Riverside County, CA
Participated in archaeological monitoring of Caltrans road-widening in vicinity of historic cemetery. Assisted in preparing negative report of findings. Coordinated with Caltrans.

Public Safety Facilities Master Plan, Los Angeles County, CA
Assisted in research and survey of a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Completed a record search at the South Central Coastal Information Center in addition to research on specific historic attributes present on the properties and general site history within the APE.

The Grove at Farmers Market Monitoring Project, Los Angeles, CA
Served as Lab Director for the analysis of a historic collection recovered from the area surrounding the historic Farmers Market and the nearby Gilmore Adobe. The project included cataloging and analysis of all recovered artifacts, reconstruction of items, photo-documentation and preparation for display and curation of the entire collection. Co-authored the resulting technical report for the project, which detailed the results of monitoring. The report included an analysis of features and artifacts recovered and a detailed history of the property.

San Diego Ballpark Project
Served as archaeological monitor for the construction of underground utility line installation for San Diego, California's downtown ballpark. Recovered historic artifacts and kept detailed records. Handled public relations and dealt with a variety of public officials and construction crews effectively, despite the controversial and complicated nature of this multimillion dollar project.

SANDAG Regional Beach Restoration Project
Acted as lead archaeological monitor in the inspection and analysis of offshore sediments along a large portion of coastal of San Diego County. The monitoring represented an effort to identify inundated archaeological sites in sediments representing former coastline. Collected samples of sediment, shellfish, and marine mammal remains from dredging spoils, and identified and described samples. Served as a vital member of a multidisciplinary team in materials evaluation. Job required familiarity with construction methods, and an ability to deal with a high level of media and public interest.

Barona Cultural Center and Museum, Barona Reservation Cultural Center Project San Diego County, CA
Completed an inventory of the recently purchased core collection for a new archaeological museum. Identified, inventoried, cleaned, and restored the artifacts, including extensive lithic and ceramic assemblages. Transformed the old and poorly packaged collection into one professionally sorted, documented, and labeled, and curated to Federal standards.

All American Pipeline Conversion Survey
Led a field crew as a part of a 170-mile long archaeological survey for the conversion of a high-pressure gas pipeline in the Mojave Desert between the towns of Daggett and Blythe, California. The survey located and updated previously unrecorded resources, including 93 archaeological sites and 22 isolated artifacts.

Level Three,Level Three Long Haul Construction Monitoring.
Coauthored a technical report concerning the salvage excavation of a Chumash multiple human burial exposed during the project, researching and analyzing the unique assemblage of stone beads associated with the human remains. Monitored the directional drilling, trenching, and clean-up relating to the installation of fiber optic cable along the coast of Santa Barbara and Ventura Counties, California. Worked closely with Chumash monitors in the identification, boundary and significance testing, and protection of prehistoric archaeological sites.

Model Marsh Data Recovery.
Excavated and water screened as part of a archaeological data recovery project for a buried Late Prehistoric period shell midden site (CA-SDI-15,598) in southern coastal San Diego, California. Following the excavation of 41 archaeological test units and 23 shovel test pits, sorted, catalogued, and speciated over 77,000 grams of shellfish and other cultural materials. Wrote the Invertebrate Faunal Analysis chapter of the resulting technical report.

MILCON Monitoring and Data Recovery.
Served as field crew for the emergency salvage treatment of eleven flexed human burials on northern MCAS Camp Pendleton, San Diego County, California. Data recovery included the identification of burial features during monitoring, exposing, documenting, and identifying visible remains, and then pedestalling and removing them in blocks.

ARCO, ARCO Burial Ground Salvage Excavation.
Assisted in cataloguing and analyzing artifacts following the salvage excavation of site CA-LAN-2682, a Protohistoric period Gabrielino habitation site and burial ground. Identified, sorted, and catalogued archaeological material including artifacts, large numbers of invertebrate and vertebrate faunal remains, as well as human remains. Conducted extensive research on several similar sites, culminating in an analytical paper presented at the 1999 Society for California Archaeology Meetings and published the following year in the group's proceedings.

Selected Reports

Central Los Angeles High School #9 Archaeological Excavation Report (in progress) (contributing author). Prepared for Los Angeles Unified School District. AECOM. (anticipated 2011).

Piecing Together the Prehistory of Landing Hill: A Place Remembered (contributing author). EDAW Cultural Publications. No. 3. (2007).

Archaeological Resources Assessment for the Alameda Street Improvement Project (in progress). Prepared for City of Los Angeles, Department of Public Works. AECOM. (2010)

Archaeological Resources Assessment for the MTA Universal Project. Prepared for Thomas Properties Group. EDAW, Inc. (2008).

Archaeological Evaluation Proposal (Phase II) of the Admiralty Site (CA-LAN047) for the State Route 90 Connector Road and the Admiralty Way Widening Projects, Marina del Rey, County of Los Angeles, CA. Prepared for Caltrans District 7. EDAW, Inc. (2007).

Cultural Resources Assessment for the Woodland Duck Farm Project, Avocado Heights, Los Angeles County, CA (with A. Tomes). Prepared for San Gabriel River & Lower Los Angeles Rivers and Mountains Conservancy (2007).

APPENDIX B

NATIVE AMERICAN CONTACT PROGRAM

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 18, 2012

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, Room 364
Sacramento, California 95814
T 916.653.6251 F 916.657.5390
www.nahc.ca.gov
ds_nahc@pacbell.net

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment - Sacred Lands File Search

Dear Mr. Singleton:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The proposed project is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project involves the delivery of recycled water for Elysian Park through the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tank. This phase of construction would remain within the confines of Stadium Way.

The second phase of the project involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities.

The goal of this letter, in addition to acquainting you with this project, is to request that you check the Sacred Lands File records to identify any previously recorded sites in the project area.

Thank you for your assistance. Please feel free to contact me if you have any questions about this project.

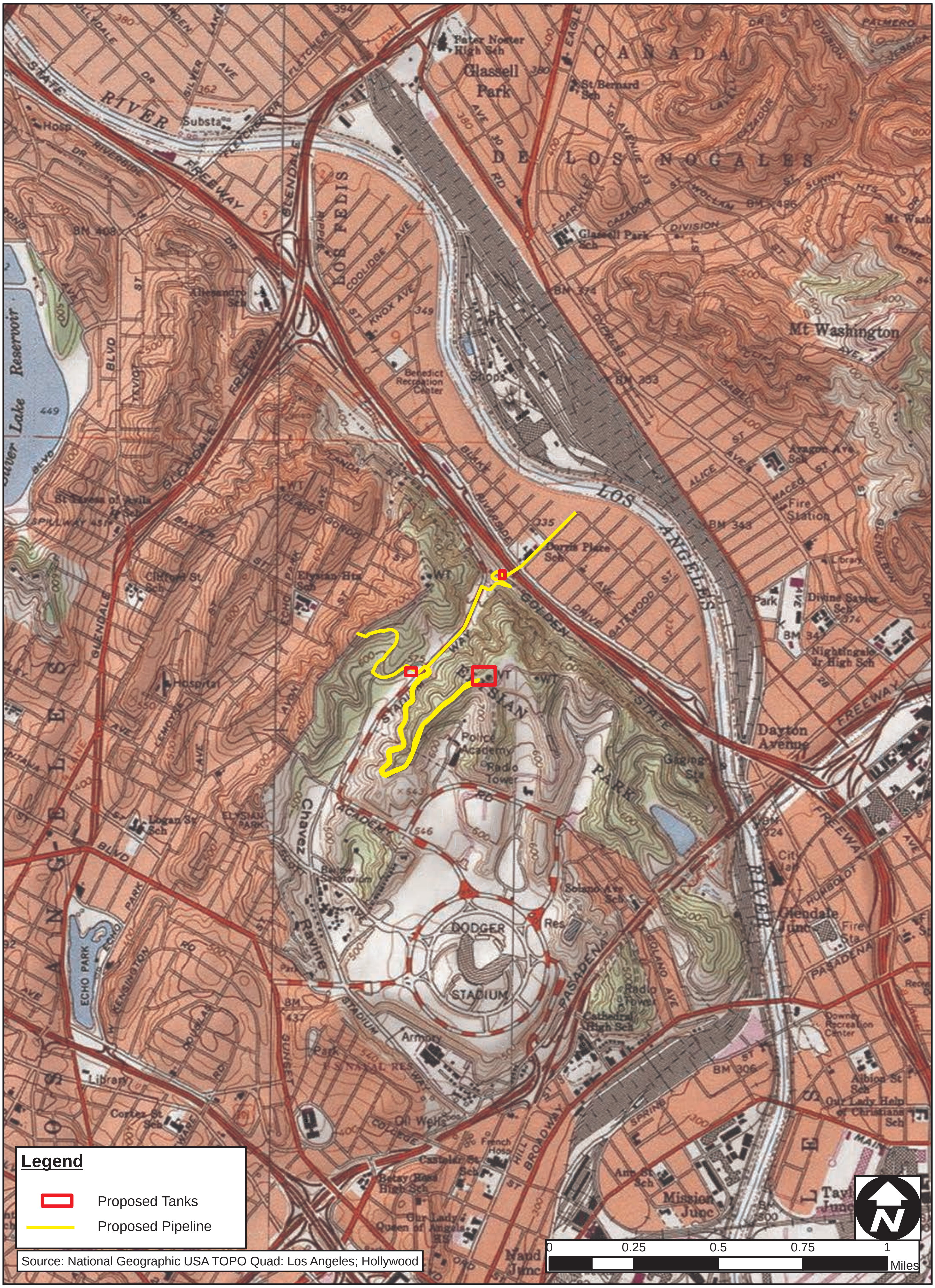
AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

Very truly yours,

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

Enclosures:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)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Proposed Tanks
Proposed Pipeline
Source: National Geographic USA TOPO Quad: Los Angeles; Hollywood
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Silver Lake Reservoir
Benedict Recreation Center
Police Academy
Radio Tower
DODGER STADIUM
Armory
ECHO PARK
Dayton Avenue
Glendale Junc
Cathedral High Sch
Solano Ave Sch
Logan St Sch
Hospital
Library


Legend
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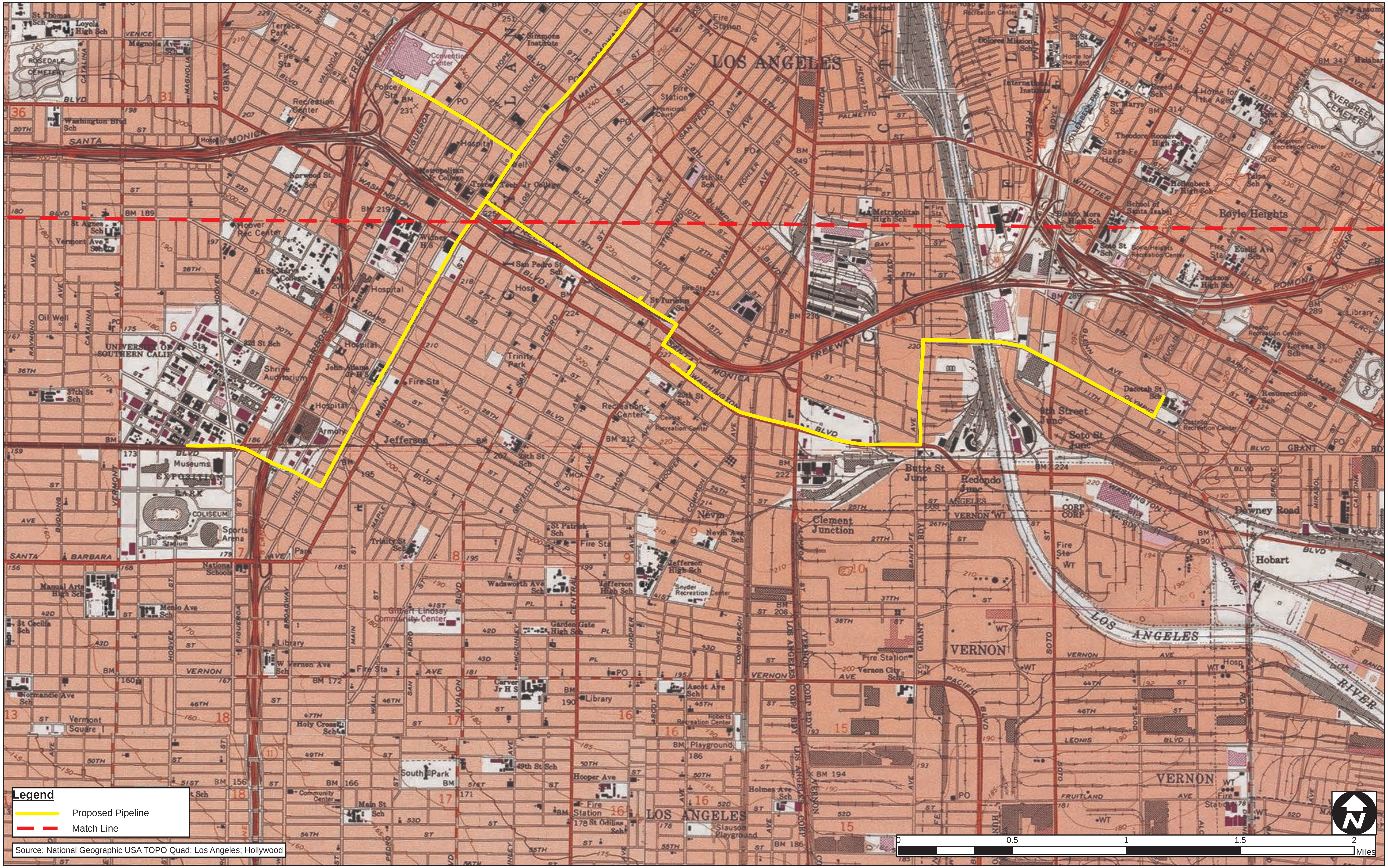
DODGER STADIUM
Lincoln Heights
Boyle Heights
EVERGREEN CEMETERY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Boyle Heights
VERNON
LOS ANGELES RIVER
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Proposed Pipeline
Match Line
Source: National Geographic USA TOPO Quad: Los Angeles; Hollywood
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N

Edmund G. Brown, Jr., Governor

STATE OF CALIFORNIA

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

April 25, 2012

Ms. Sara Dietler, RPA, Project Archaeologist
AECOM
515 S. Flower Street, 9th Floor
Los Angeles, CA 90071

Sent by FAX to: 213-593-7715
No. of Pages: 5

Re: Sacred Lands File Search and Native American Contacts list for the **"Elysian Park/USC Water Recycling Project IS/EIR;"** located south of Downtown Los Angeles; Los Angeles County, California

Dear Ms. Dietler:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'area of potential effect,' (APE) based on the USGS coordinates provided and **Native American cultural resources were not identified** in the project area of potential effect (e.g. APE): you specified... Also, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any project groundbreaking activity.

California Public Resources Code §§5097.94 (a) and 5097.96 authorize the NAHC to establish a Sacred Land Inventory to record Native American sacred sites and burial sites. These records are exempt from the provisions of the California Public Records Act pursuant to. California Government Code §6254 (r). The purpose of this code is to protect such sites from vandalism, theft and destruction.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list that the NAHC has provided in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 4(f), Section 110 (f)(k) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The NAHC remains concerned about the limitations and methods employed for NHPA Section 106 Consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List

Native American Contacts
Los Angeles County
April 25, 2012

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,

tattnlaw@gmail.com
310-570-6567

Gabrielino-Tongva Tribe
Bernie Acuna
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
(619) 294-6660-work
(310) 428-5690 - cell
(310) 587-0170 - FAX
bacuna1@gabrieinotribe.org

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
lcandelaria1@gabrielinoTribe.org
626-676-1184- cell
(310) 587-0170 - FAX
760-904-6533-home

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Elysian Park/USC Water Recycling Project IS/EIR; located near Downtown Los Angeles; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contacts
Los Angeles County
April 25, 2012

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
(626) 926-4131
gabrielenoindians@yahoo.
com

This list is current only as of the date of this document.

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AECOM

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 27, 2012

Gabrielino – Tongva Tribe
Bernie Acuna
1875 Century Park East #1500
Los Angeles, CA 90067

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Acuna:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

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The proposed project is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The response form (Enclosure 4) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than May 27, 2012.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715   www.AECOM.com

Please contact Project Archaeologist Sara Dietler with any questions:

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

Yours Sincerely,

Enclosure:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)
4) Response Form
5) Self- Addressed Stamped Envelope

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515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 27, 2012

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B
Costa Mesa, CA 92626

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Ms. Alvitre:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

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Please contact Project Archaeologist Sara Dietler with any questions:

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AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

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April 27, 2012

LA City/County Native American Indian Comm.
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles, CA 90020

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Andrade:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

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AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

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April 27, 2012

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Pk, East #1500
Los Angeles, CA 90067

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Ms. Candelaria:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

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April 27, 2012

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower, CA 90707

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Dorame:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project involves the delivery of recycled water for Elysian Park through the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tank. This phase of construction would remain within the confines of Stadium Way.

The second phase of the project involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities.

The proposed project is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The response form (Enclosure 4) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than May 27, 2012.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715   www.AECOM.com

Please contact Project Archaeologist Sara Dietler with any questions:

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

Yours Sincerely,

Enclosure:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)
4) Response Form
5) Self- Addressed Stamped Envelope

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 27, 2012

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles, CA 90086

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Dunlap:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

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The second phase of the project involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities.

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Yours Sincerely,

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April 27, 2012

Gabrielino/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Morales:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project involves the delivery of recycled water for Elysian Park through the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tank. This phase of construction would remain within the confines of Stadium Way.

The second phase of the project involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities.

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Please contact Project Archaeologist Sara Dietler with any questions:

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

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T 213.593.7700 F 213.593.7715 www.AECOM.com

April 27, 2012

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
tattnlaw@gmail.com

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Rosas:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

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Please contact Project Archaeologist Sara Dietler with any questions:

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

Yours Sincerely,

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T 213.593.7700 F 213.593.7715 www.AECOM.com

April 27, 2012

Gabrielino Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA 91723

Subject: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Salas:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

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AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

Please contact Project Archaeologist Sara Dietler with any questions:

Sara Dietler
AECOM
Project Archaeologist
D 213.593.8693 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
sara.dietler@aecom.com

Yours Sincerely,

Enclosure:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
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Dietler, Sara

From: Kry, Linda
Sent: Saturday, April 28, 2012 2:52 PM
To: Dietler, Sara
Subject: Fw: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

See below

From: Johntommy Rosas [mailto:tattnlaw@gmail.com]
Sent: Saturday, April 28, 2012 12:53 PM
To: Kry, Linda; Dave Singleton <ds_nahc@pacbell.net>
Subject: Re: Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

thanks

I OBJECT and OPPOSE the ref proposed project Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

I also object to the illegal process / timelines you have self imposed which are in complete violation to the NHPA and sb18 tribal consultations

which are both required and we demand and invoke now

we also will consult directly with DWP the government entity not your firm as is our right

that way our rights can be fully implemented and adhered to versus what you or your have already attempted illegally

so you need to fwd this em to DWP and they will provide us the direct contact

/s/ johntommy rosas

On Fri, Apr 27, 2012 at 2:14 PM, Kry, Linda <Linda.Kry@aecom.com> wrote:

This message is for John Tommy Rosas –

We will be sending documents pertaining to the project listed above shortly through a send file application as the files are too big to send through regular email. Please feel free to contact me if you do not receive the aforementioned documents. Thank you.

Linda Kry
Archaeologist

Design + Planning

D 213.593.8474 M 562.787.0701

linda.kry@aecom.com

AECOM

515 S Flower Street, 9th Floor, Los Angeles, CA 90071 USA
T 213.593.7700 F 213.593.7715

www.aecom.com

--
JOHN TOMMY ROSAS
TRIBAL ADMINISTRATOR
TRIBAL LITIGATOR
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION

TRUTH IS OUR VICTORY AND HONOR IS OUR PRIZE >TATTN ©

Dietler, Sara

From: andysalas [gabrielenoindians@yahoo.com]
Sent: Monday, May 07, 2012 10:35 PM
To: Dietler, Sara; Christina Swindall; Gary Stickel
Subject: Elysian park/USC water recycling project.

The Gabrieleno Band Of Mission Indians/Kizh Tribe would like to request one of our NA monitor be present "ONLY" during any and all ground disturbance. The Los Angeles basin, Orange Counties up to the Channel islands and Ventura is our tribal territories so we would like to protect and preserve All our cultural resources if Possible. Your Project is within a very Highly Sensitive cultural area.

Thank you Chairman Andrew Tautimez Salas of the Gabrieleno Band Of Mission Indians/Kizh Tribe Los Angeles Basin.
Sent from my BlackBerry® by Boost Mobile

GABRIELEÑO BAND OF MISSION INDIANS

Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

Sara Dietler, Project Archaeologist
AECOM
515 S Flower St, 9th Floor
Los Angeles, CA 90071

May 20, 2012

Dear Mrs. Dietler,

Thank you for your correspondence dated April 27, 2012 advising me of the Elysian Park/USC Water Recycling Project Assessment. We, the Gabrieleno Indians, once occupied the now greater Los Angeles area with many villages located in and around downtown Los Angeles. One of our most prominent villages, Yangna, was located just west of this site. We consider this area to be potentially full of cultural resources that have yet to be found. We are requesting to protect our potential resources by having one of our experienced & certified Native American monitors to be on site during all ground disturbances. We would like to request participating in the consultation process.

In all cases, when or if the Native American Heritage Commission states there are "no records of sacred sites" in the subject area, they always refer the contractors back to the Native American Tribes whose tribal territory the project area is in. This is due to the fact that the NAHC is only aware of general information on each California NA Tribe they are not the "experts" on our Tribe. Our Elder Committee & Tribal Historians are the experts and are the reason why the NAHC will always refer contractors to the local tribes.

Please contact our office regarding this project to coordinate a Native American monitor to be present during ground disturbing construction.

Sincerely,

Andy Salas, Chairman
Gabrieleno Band of Mission Indians

Dietler, Sara

From: samdunlap@earthlink.net
Sent: Wednesday, June 20, 2012 3:55 PM
To: Dietler, Sara
Subject: LADWP-Elysian Park-USC-Water Recycling Project

Dear Ms. Dietler,

After review of the information provided by your office it would appear that the proposed project has a possibility to impact historic and prehistoric archaeological material.

I would recommend archaeological monitoring for subsurface construction activity and also a Native American monitoring component to assist in the identification and assessment of any cultural material that may be encountered.

Since the proposed project is within the traditional tribal territory of the Gabrielino Tongva Nation I also request that the Native American monitor be selected from our tribal group.

Please feel free to contact me regarding my recommendations and requests for this proposed project.

Sincerely,

Sam Dunlap
Cultural Resouce Director
Gabrielino Tongva Nation
(909) 262-9351

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 9, 2013

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, Room 364
Sacramento, California 95814
T 916.653.6251 F 916.657.5390
www.nahc.ca.gov
ds_nahc@pacbell.net

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment - Sacred Lands File Search

Dear Mr. Singleton:

This is a revised project description and a follow up to our previous sacred lands file search dated April 18, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The proposed project is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The goal of this letter, in addition to acquainting you with this project, is to request that you check the Sacred Lands File records to identify any previously recorded sites in the project area.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

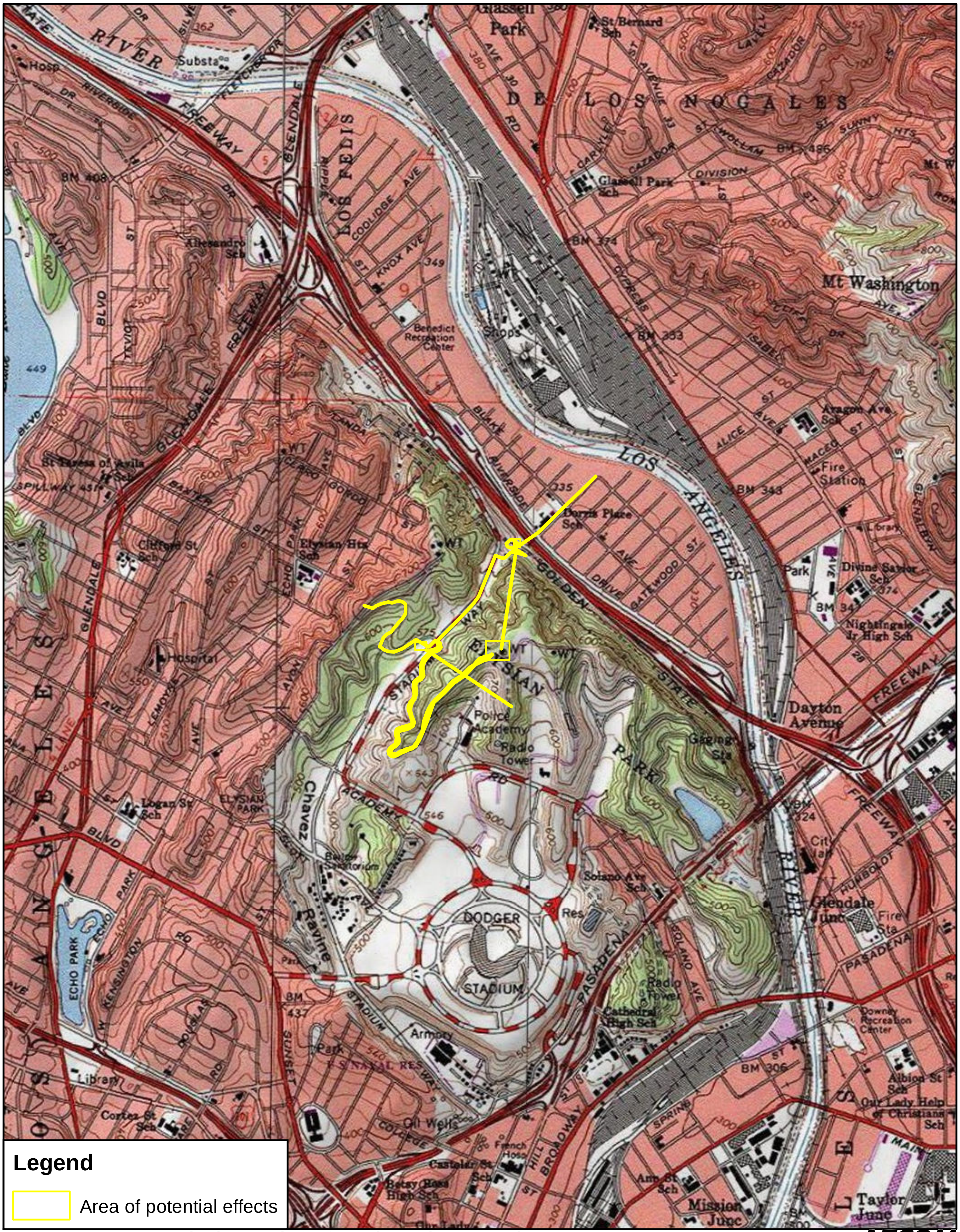
Thank you for your assistance. Please feel free to contact me if you have any questions about this project.

Very truly yours,

Heather R G

Heather Gibson, Ph.D., RPA
AECOM
Project Archaeologist
D 213.593.8580 or 714-567-2753 F 213.593.7715
515 S Flower Street, 9th Floor
Los Angeles, CA 90071 USA
heather.gibson@aecom.com

Enclosures:
1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)



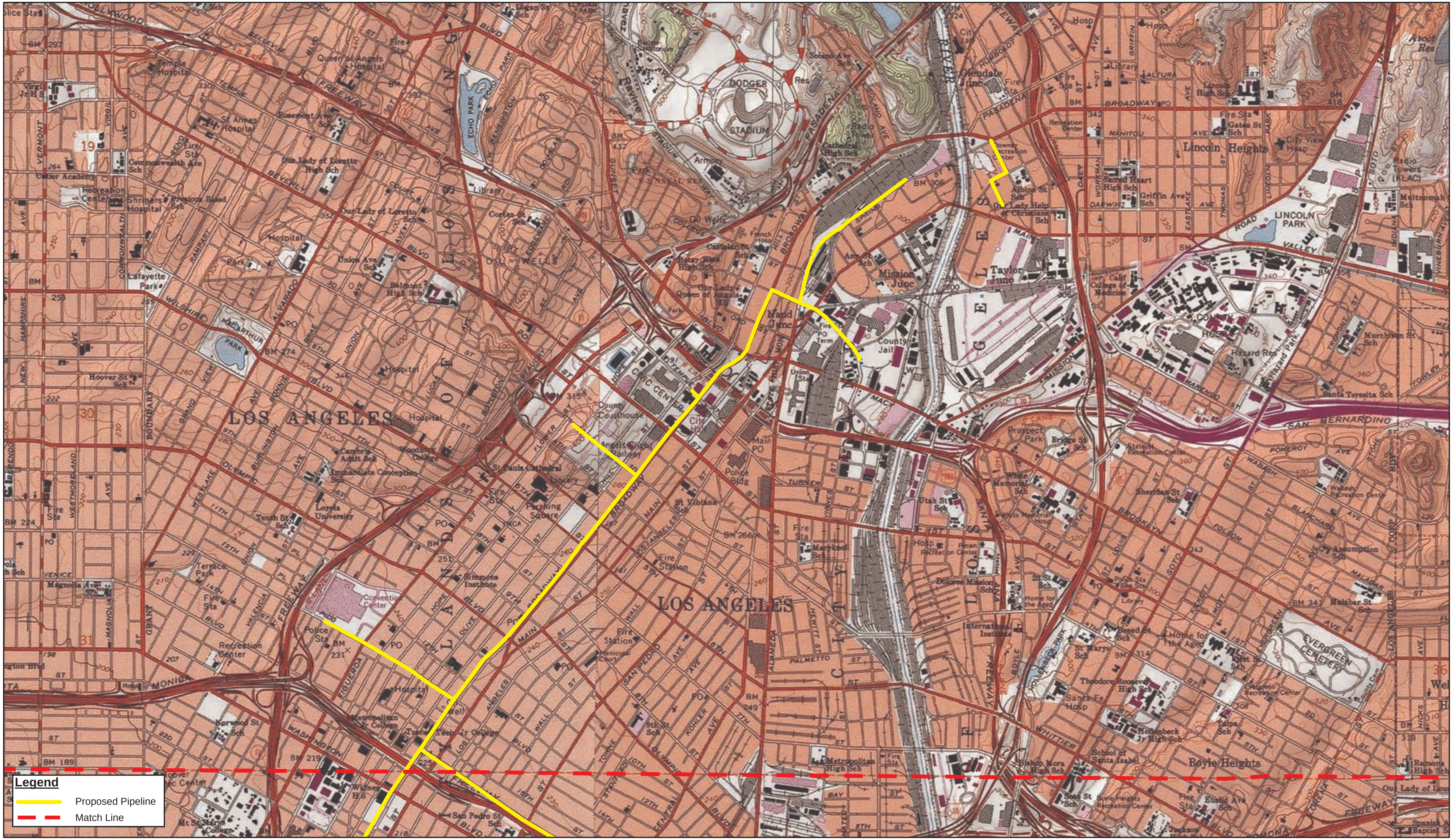
Source: ESRI 2012 USGS 7.5' Quadrangle Los Angeles (1966) Revised 1981 and 1994 - Map scale 1:24,000

0 0.25 0.5 0.75 1 Miles

AECOM

Figure 2
Project Location

Elysian Park/USC WRP Phase I



Source: National Geographic USA TOPO Quad: Los Angeles; Hollywood

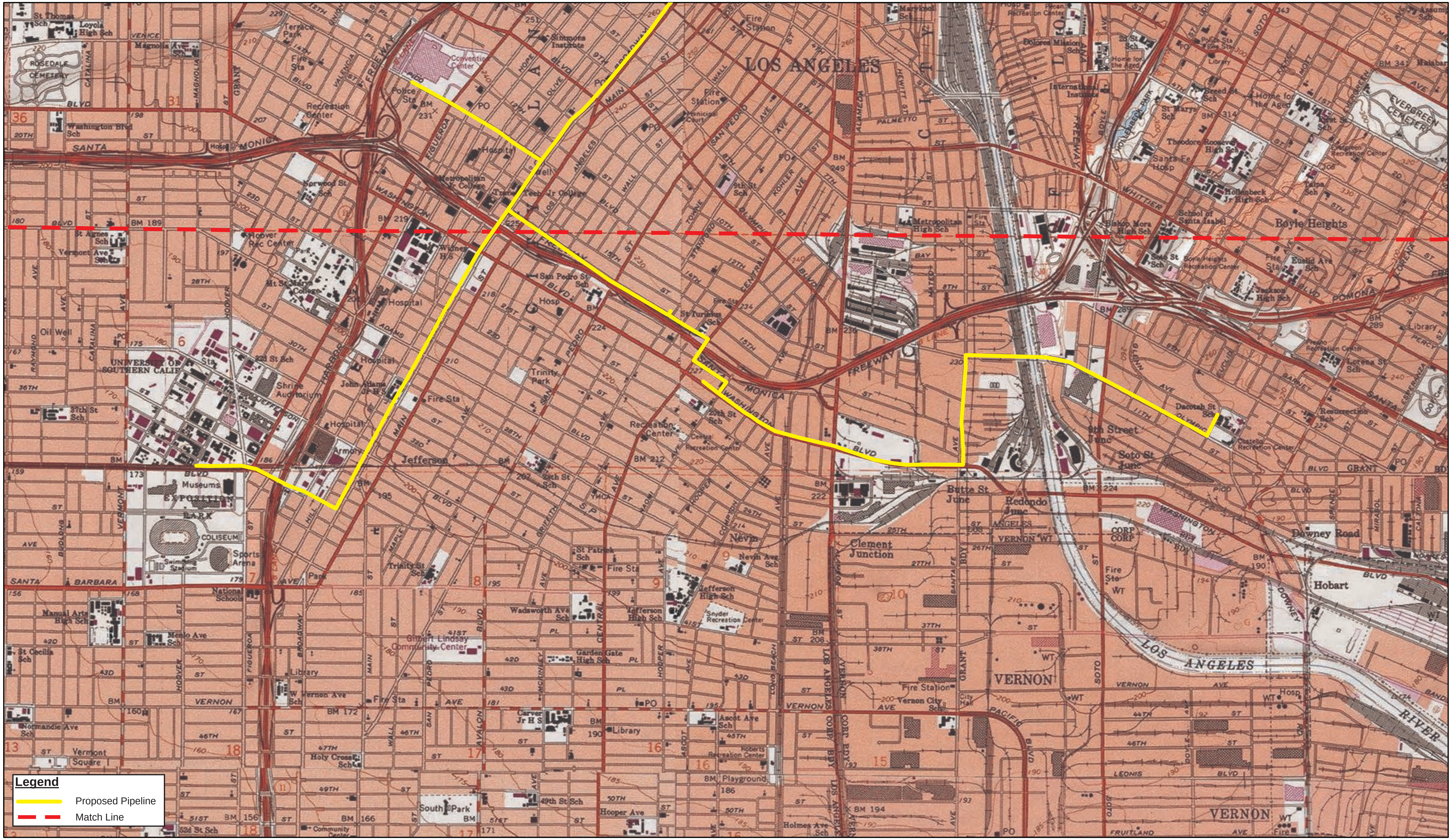
0 0.5 1 1.5 2 Miles

AECOM

Figure 2b

Project Location, USC WRP (Phase II)

Elysian /USC WRP



Source: National Geographic USA TOPO Quad: Los Angeles; Hollywood

0 0.5 1 1.5 2 Miles

AECOM

Figure 2c

Project Location, USC WRP (Phase II)

Elysian /USC WRP

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

April 17, 2013 (Revised)

Dr. Heather Gibson, Ph.D., RPA
AECOM
515 South Flower Street, 9th Floor
Los Angeles, CA 90071

Sent by FAX to: 213-593-7715
No. of Pages: 3

Re: Request for Sacred Lands File Search and Native American Contacts list for the **"Revised Elysian Water Recycling Project of the Los Angeles Department of Water and Power;"** located on a 575-acre site and 8,400 linear feet to extend the 16-inch Recycled Water Pipeline to Elysian Park; City of Los Angeles; Los Angeles County, California.

Dear Dr. Givson:

A record search of the NAHC Sacred Lands File did indicate the presence of Native American traditional cultural place(s) in the Township 1 South but not in Township 2 South, the USGS coordinates you submitted, the Area of Potential Effect (APE). Also, the absence of archaeological or Native American sacred places does not preclude their existence. Other data sources for Native American sacred places/sites should also be contacted. A Native American tribe of individual may be the only sources of presence of traditional cultural places or sites.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

Attached is a list of Native American tribes, individuals/organization who may have knowledge of cultural resources in or near the project area. As part of the consultation process, the NAHC recommends that local governments and project developers contact the tribal governments and individuals to determine if any cultural places might be impacted by the proposed action. If a response is not received in two weeks of notification the NAHC requests that a follow telephone call be made to ensure that the project information ahs been received.

If you have any questions or need additional information, please contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Native American Contacts
Los Angeles County
April 17, 2013

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908
Los Angeles , CA 90086
Gabrielino Tongva
samdunlap@earthlink.net
(909) 262-9351 - cell

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B
Costa Mesa, , CA 92626
Gabrielino
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower , CA 90707
Gabrielino Tongva
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address
Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
P.O. Box 180
Bonsall , CA 92003
Gabrielino
(619) 294-6660-work
(310) 428-5690 - cell
(760) 636-0854- FAX
bacuna1@gabrieinotribe.org

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693
San Gabriel , CA 91778
Gabrielino Tongva
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
P.O. Box 180
Bonsall , CA 92003
Gabrielino
palmsprings9@yahoo.com
626-676-1184- cell
(760) 636-0854 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Revised Elysian Park/USC Water Recycling Project (IS/EIR); located in the Downtown area of Los Angeles to construct a 8,400 linear feet Recycled Water Pipeline to Elysian Park from south of Downtown; Los Angeles County, California.

Native American Contacts
Los Angeles County
April 17, 2013

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393
Covina , CA 91723
(626) 926-4131
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Gabrielino

Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180
Bonsall , CA 92003

760-636-0854 - FAX

Gabrielino

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Revised Elysian Park/USC Water Recycling Project (IS/EIR); located in the Downtown area of Los Angeles to construct a 8,400 linerar feet Recycled Water Pipeline to Elysian Park from south of Downtown; Los Angeles County, California.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
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April 23, 2013

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
P.O. Box 180
Bonsall, CA 92003

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Acuna:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The response form (Enclosure 4) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than May 24, 2013.

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Yours Sincerely,

Heather R Gi

Heather Gibson, Ph.D., RPA
Project Archaeologist
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heather.gibson@aecom.com

Enclosure:

1) Phase I – Project Area Map
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April 23, 2013

Gabrielino-Tongva Tribe
Conrad Acuna
P.O. Box 180
Bonsall, CA 92003

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Acuna:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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April 23, 2013

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B
Costa Mesa, CA 92626

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Ms Alvitre:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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April 23, 2013

LA City/County Native American Indian Comm.
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles, CA 90020

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Andrade:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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April 23, 2013

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
P.O. Box 180
Bonsall, CA 92003

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Ms Candelaria:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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April 23, 2013

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower, CA 90707

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Dorame:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

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April 23, 2013

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles, CA 90086

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Dunlap:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

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April 23, 2013

Gabrielino/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Morales:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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April 23, 2013

Gabrielino Tongva
John Tommy Rosas, Tribal Administrator
tattnlaw@gmail.com

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Rosas:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The response form (Enclosure 4) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than May 24, 2013.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715   www.AECOM.com

Please contact me directly with any questions.

Yours Sincerely,

Heather R G

Heather Gibson, Ph.D., RPA
Project Archaeologist
D 213.593.8580 F 213.593.7715
heather.gibson@aecom.com

Enclosure:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)
4) Response Form

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

April 23, 2013

Gabrielino Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA 91723

Subject: Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment

Dear Mr. Salas:

This is a revised project description and a follow up to our letter dated April 27, 2012. AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park and downtown Los Angeles. The proposed project would be implemented in two phases. Phase I of the proposed project would be located within Elysian Park and consist of a 575 acre area that is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Phase II of the proposed project would be located within the public streets of fully developed communities of Chinatown, downtown Los Angeles, Exposition Park, and Boyle Heights.

The first phase of the project has been revised. Previously, the first phase of the project involved the construction of a new 16-inch recycled water pipeline totaling approximately 8,400 linear feet and associated water pumping stations and water storage tanks that would deliver recycled water to Elysian Park. However, this first phase has been revised so that the 16-inch recycled water pipeline route will also include residential streets to the northeast of Elysian Park. In addition, a new 2-inch potable water line totaling approximately 1,250 linear feet would be constructed that would supply water to a proposed public restroom facility within Elysian Park. As part of the revised project, the project is also proposing to include horizontal directional drilling (HDD) through the hillside within Elysian Park between the proposed recycled water pump station and the proposed location of a recycled water storage tank (Enclosure 1).

The second phase of the project remains the same and involves constructing approximately 10 miles of new 16-inch recycled water pipeline to downtown Los Angeles, the University of Southern California (USC), and Boyle Heights. This phase of construction will remain within the confines of the public streets of the urbanized and fully developed communities (Enclosures 2 and 3).

The proposed project, as revised, is located within sectioned and un-sectioned portions of Township 1 and 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Los Angeles 1966 [Revised in 1981] and Hollywood 1966 [Revised in 1981], and is indicated on the enclosed maps.

The response form (Enclosure 4) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than May 24, 2013.

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

Please contact me directly with any questions.

Yours Sincerely,

Heather Gibson, Ph.D., RPA
Project Archaeologist
D 213.593.8580 F 213.593.7715
heather.gibson@aecom.com

Enclosure:

1) Phase I – Project Area Map
2) Phase II – Project Area Map (1 of 2)
3) Phase II – Project Area Map (2 of 2)
4) Response Form
5) Self- Addressed Stamped Envelope

NATIVE AMERICAN RESPONSE FORM

Project Name: **Revised Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment**

Please circle appropriate response below.

I/We (would like) (would not like) to be contacted. You may contact me/us at the address and phone number below.

I/We (do) (do not) have concerns. They are outlined below:

____

____

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____

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____

____

Please Print Name, Tribal Office/Affiliation, Address, and Phone Number

____

____

____

____

____

______________________________ ______________
Signature Date

Please return completed form no later than **May 24, 2013** to:

Heather Gibson
AECOM
515 S Flower Street
9th Floor
Los Angeles, CA 90071

From:	Johntommy Rosas <tattnlaw@gmail.com>
Sent:	Tuesday, April 23, 2013 3:56 PM
To:	Beherec, Marc
Subject:	Re: Notification: Marc Beherec has sent you files

thanks I am downloading it now -I will respond later

jt

On Tue, Apr 23, 2013 at 3:49 PM, <Marc.Beherec@aecom.com> wrote:
Marc Beherec has sent you 5 files using AECOM's File Transfer System.

Marc Beherec says:

Dear Mr. Rosas:

I have been asked by Heather Gibson of AECOM to provide you a contact letter, maps, and response form regarding revisions to the Elysian Park/USC Water Recycling Project Initial Study/Environmental Assessment. Those documents may be downloaded from the links below. Please let me know if you have difficulty downloading them, either via this email address or by phone at 951-296-7561.

Thank you!

Marc A. Beherec

These files will be available for download until 4/30/2013

File	Description	Size
Fig2_Project_Location_Elysian_WRP_PhaseI.pdf	Phase I map	919KB
Figure_2b_Project_Location_PhaseII_Map1.pdf	Phase II map 1	92,173KB
Figure_2c_Project_Location_PhaseII_Map2.pdf	Phase II map 2	87,768KB
JT Rosas.pdf	Contact Letter	162KB
NA response form Enclosure_Current 2013.pdf	Response Form	6KB

Download all files (.zip)

If you are having trouble accessing the links in this email, you can view this message as a web page by copying the following link and pasting it into your browser:

https://sendfiles.aecom.com/message.aspx?msgId=3aa3e581-7000-437b-bf75-db9a459866d1&u=tattnlaw%40gmail.com

If you have any questions, please contact your project manager.

--
JOHN TOMMY ROSAS
TRIBAL ADMINISTRATOR
TRIBAL LITIGATOR
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION
OFFICIAL TATTN E-MAIL CONFIDENTIAL

TATTN / TRIBAL NOTICE OF CONFIDENTIALITY:

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TRUTH IS OUR VICTORY AND HONOR IS OUR PRIZE >TATTN ©

From: <gabrielenoindians@yahoo.com>
Date: April 27, 2013 11:35:11 AM PDT
To: "Gibson, Heather" <Heather.Gibson@aecom.com>, "Christina Swindall Martinez. Kizh Gabrieleno" <christinaswindall@yahoo.com>, "Nadine Salas. Kizh Gabrieleno" <nadinesalas@hotmail.com>
Subject: Elysian Park/USC water recycling project
Reply-To: <gabrielenoindians@yahoo.com>

Dear Heather
This email is in regard to your letter dated April 23,2013
Elysian Park/USC water recycling project. The proposed project is within a highly culturally sensitive area of known Villages of our Kizh Nation and in order to protect our resources we're requesting one of our experienced & certified Native American monitors to be on site during all ground disturbances.
In all cases, when the NAHC states there are "no records of sacred sites" in the subject area; they always refer the contractors back to the Native American Tribes whose tribal territory the project area is in. This is due to the fact, that the NAHC is only aware of general information on each California NA Tribe they are NOT the "experts" on our Tribe. Our Elder Committee & Tribal Historians are the experts and is the reason why the NAHC will always refer contractors to the local tribes.
Please contact our office regarding this project to coordinate a NA monitor to
be present. Thank You

Sincerely,
Andy Salas
Chairman Of Gabrieleno Band Of Mission Indians/Kizh Tribe
Of the Los Angeles Basin, Orange county and the Channel islands.

www.gabrielenoindians.org

Sent from my BlackBerry® by Boost Mobile

APPENDIX C

DPR FORMS

(CONFIDENTIAL)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

November 7 2013
Carol Roland-Nawi
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street
Sacramento, CA 95816

Subject: Request for Concurrence under Section 106 of the National Historic Preservation Act (NHPA) for the City of Los Angeles Elysian Park Water Recycling Project Phase 1.

Dear Mrs. Roland-Nawi:

In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1996, as amended (16 U.S.C. 470f), and its implementing regulation, 36 CFR 800 "Protection of Historic Properties," the U.S. Environmental Protection Agency (US EPA) are initiating a new consultation with your office regarding the proposed Elysian Park Water Recycling Project Phase 1 in the City of Los Angeles in Los Angeles County. Below is a brief summary of the project and findings. Enclosed please find the necessary supporting documentation per 36 CFR Part 800.

Project Description

The City of Los Angeles received a congressional appropriation in Fiscal Year 2010 from the United States Environmental Protection Agency (EPA) for the proposed project. The City of Los Angeles Department of Water and Power (LADWP) proposes to install a recycled water pipeline, a potable water pipeline, a storage tank, and a new recycled water booster pump within Elysian Park.

The proposed project will include the construction of a new 16-inch recycled water pipeline from the existing recycled water pipeline serving Taylor Yard totaling approximately 10,800 linear feet. The proposed Elysian Park recycled water pipeline would connect to a proposed 2 million gallon recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a proposed recycled water pumping station located on the west side of Interstate 5 just inside Elysian Park. The proposed route for the recycled water pipeline would roughly follow Stadium Way. In addition, to provide for the potable water uses within Elysian Park, approximately 1,000 linear feet of 8-inch potable water pipeline would be constructed from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pumping station would be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields.

The project is currently under NEPA review by EPA and an environmental assessment is expected to be public noticed once this consultation is completed. The City of Los Angeles completed a negative mitigation declaration for Phase 1 and 2 under the California Environmental Quality Act (CEQA). The CEQA document can be found at www.ladwp.com/envnotices.

Area of Potential Effect

The Area of Potential Effect (APE) is located within the City of Los Angeles. The APE starts at the termination point of the Taylor Yard WRP on the west side of the Los Angeles River. The APE extends 700 feet southeast along the bike path to Riverdale Avenue, 1,200 feet southwest on Riverdale Avenue to Blake Avenue, 550 feet northwest on Blake Avenue to Dorris Place, and 550 feet southwest on Dorris Place. The APE crosses the I-5 freeway and continues along Stadium Way and diverges to follow both Elysian Park Drive, Angels Point Road, and Park Road. In addition there is a Alternative alignment, called the Horizontal Direction Drilling Alternative (HDD), that would bypass the route on Angels Point Road by installing a pipeline directly in the hillside. The horizontal APE includes the construction footprint for activity related to the water recycling project, and the vertical APE is defined by the depth of excavation required during trenching for the installation of the pipeline and construction of the pump station and storage tank. The construction will take place in existing streets and consists of trenching between 2.5 to 3 feet wide. The vertical APE is between 4 to 4.5 feet deep. A flat pad, approximately 65 feet long by 30 feet wide, will be cleared and graded to accommodate the pump station. The APE is depicted in the enclosed cultural resources assessment.

Identification of Historic Properties

Under section 800.4 (b), an effort has been made to identify historic properties. In July 2013, a cultural resource assessment was prepared for Phase 1 and 2 of the proposed pipeline route of the project. This cultural resource assessment replaced the original cultural resource assessment completed in July 2012. The original cultural resource assessment contained information only on the Phase 1 of the project which had a slightly different pipeline alignment. EPA is only requesting concurrence for Phase 1 of the project due to EPA funding limited to Phase 1. The cultural resource assessment followed the pipeline route, and the location of the storage tank and a new recycled water booster pump. The City of Los Angeles contracted AECOM to prepare the cultural resources assessment which included an archival records search, field survey, and outreach to tribal representatives. A summary of the enclosed cultural resource assessment limited to Phase 1 is below.

- AECOM conducted a records search for the APE and within a ¼ mile radius of the APE on April 18-19 and 25-26, 2012 at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The Los Angeles Historic-Cultural Monument Register identified two historic monuments with ¼ miles of the project APE. These are the Chavez Ravine Arboretum and the Los Angeles Police Academy Rock Garden. A portion of the APE, a segment of the potable water pipeline and pump station

- The project APE, which includes a segment of the potable water pipeline and potable water pumping station, is located within a portion of the arboretum. The Los Angeles Police Academy Rock Garden does not overlap with any portion of the APE. The California State Historical Resources Inventory and California Historical Landmarks listings did not identify any historic resources or landmarks within the APE.

- *Zanjas*, the original irrigation system, was historically used for irrigation purposes in Los Angeles. These *zanjas* were used for many years for ranching and cultivation in the floodplains. As the population grew, the *zanjas* were no longer able to meet water demand and were gradually abandoned. In 1902, the City of Los Angeles purchased the remaining *zanja* water system. The *zanja* system known as Chavez Ditch was historically mapped near the present day intersection of Riverside Drive and Dorris Place.

- AECOM performed a pedestrian and windshield survey on May 8 and April 2, 2013. The survey did not find any visual evidence of the historic Los Angeles zanja system, which is suggested to have crossed Dorris Place just north of the present-day intersection with Riverside Drive.

- The Gabrielino village of Yangna is reported to be located near the Los Angeles River, however the exact location is unknown. Some theories on the location of Yangna include Union Station, south of Old Spanish Plaza, near the original site of the Bella Union Hotel, and in the north portion of Elysian Park. Another theory is that the Elysian Park location was the village of Maawnga, not Yangna. The exact location of the village of Maawgna is also unknown.

- The sites location near the Los Angeles River would have provided access to important prehistoric resources. It is possible that prehistoric resources could be buries beneath the surface such as area with minimal ground disturbance or in areas where development may have capped buries prehistoric resources.

- A Sacred Lands File (SLF) search for the proposed project was requested from the California Native American Heritage Commission (NAHC) on April 18, 2012 and on April 9, 2013. The first SLF did not identify any cultural resources however the second letter identified the presence of Native American traditional cultural place(s) in Township 2 South which is Phase 2 of the project. The NAHC indicated that the inventory is not exhaustive and does not preclude the discovery of cultural resources during any groundbreaking activity.

- Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the survey areas. Letters were mailed on April 27, 2012 to the nine parties on the contact list and five responses were received.

    - Mr. Anthony Morales responded that there are many culturally sensitive areas near the proposed project site and requested that consultation with him be continued and he also recommended monitoring during construction.

  - Mr. Andrew Salas responded that the project APE is a portion of their traditional tribal territory. He stated that the prominent village of Yangna was located west of the project site. He requested that one of the tribes experience and certified Native American monitors be present during all ground disturbances and to participate in the consultation process.

  - Mr. Robert Dorame indicated that the entire project area is sensitive and will need archaeological monitoring and Native American monitoring during ground disturbing activities.

  - Mr. Sam Dunlap indicated the proposed project has the potential to impact historic and prehistoric archaeological material. He stated that the site is within the traditional Gabrielino Tongva Nation tribal territory. He recommends archaeological and Native American monitoring for subsurface construction activity and the monitor selected from his tribe.

  - Mr. Johntommy Rosas objected and opposed the proposed project. He stated that the consultant (AECOM) contacting tribal representatives violated NHPA and SB18.

- As Second round of correspondence was conducted with all individuals and groups indicated in the updated response from NAHC as having affiliation with the survey areas. Letters were mailed on April 23, 2013 to the nine parties on the contact list and five responses were received.

  - Mr. Andrew Salas responded that the project APE is within a highly culturally sensitive area of known villages of our Kizh Nation. He requested that one of the tribes experience and certified Native American monitors be present during all ground disturbances. He also noted that the NAHC is only aware of general information on each Californian Native American tribe and are not the experts on our tribe.

- The Friends of the Los Angeles River will be participating in making recommendations to the design of the water pumping stations and recycled water tanks.

Evaluation of Historic Significance

Under section 800.4 (c), the National Register of Historic Places criteria have been applied to the two resources encountered. Elysian Park is recommended eligible under Criterion 1 from the California Register of Historical Resources. The Chavez Ravine Arboretum is considered to have local level significance. It is listed as Historic-Cultural Monument No. 48 as part of the Los Angeles Historic-Cultural Monuments.

Assessment of Adverse Effects

Under section 800.5 (b), the EPA has applied the criteria of adverse effect and has determined that the project will result in a finding of **no adverse effect to historic properties** with the condition of archaeological monitoring during ground disturbing activities. The following six mitigation measures will be implemented for the Elysian Park Water Recycling Project.

- **CR-1** Installation of the pumping station and potable water pipeline within the arboretum shall be designed so as not to require removal of or cause root damage to the tree plantings within the Chavez Ravine Arboretum. Additionally, The City of Los Angeles Department of Recreation and Parks staff with knowledge of the trees and their root systems shall be consulted in order to avoid removal of trees or damage to root systems that may lie within or adjacent to the project APE. Lawn (grass) to be removed during trenching shall be replaced in the post-construction phase, to the extent feasible.

- **CR-2** The forebay tank, and non-potable and recycled water pumping stations shall be designed to be visually consistent with the landscape of Elysian Park and shall be carried out in compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties.

- **CR-3** A qualified archaeological monitor shall be on-site during all ground disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and receiving pits for microtunneling. The location of the launching and receiving pits shall be excavated in a controlled manner with a flat blade for the first 5 feet, under the direction of the archaeological monitor. The qualified archaeological monitor shall work under the direction of a qualified archaeological Principal Investigator.

- **CR-4** The archaeological monitor shall conduct worker training prior to the initiation of ground disturbing activity in order to inform workers of the types of resources that may be encountered and apprise them of appropriate handling of such resources.

- **CR-5** If any prehistoric archaeological sites are encountered within the APE, consultation with interested Native American parties shall be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources.

- **CR-6** The archaeological monitor, through LADWP's construction manager, shall have the authority to redirect construction equipment in the event that potential archaeological resources are encountered. In the event that archaeological resources are encountered, LADWP shall be notified immediately and work in the vicinity of the discovery shall halt until appropriate treatment of the resource is determined by the qualified archaeological Principal Investigator in accordance with the provisions of Section 106 of the NHPA.

The EPA requests your concurrence with the APE, the eligibility recommendations, and the determination of no adverse effect to historic properties with the condition of archaeological monitoring during ground disturbing activities. Please inform EPA within 30 days of the date of this letter regarding your concurrence with our proposed findings. If you do not reply within this 30 day period, EPA will consider the lack of response to indicate SHPO's agreement with these findings. If you require additional information or have questions regarding this request, please call me at (213) 244-1819 or by fax at 213-244-1850 or Howard Kahan, US EPA Southern California Field Office 600 Wilshire Blvd. Suite 1460 (WTR-4), Los Angeles, CA 90017. Additionally I can be reached by e-mail at kahan.howard@epa.gov.

Sincerely,
/s/
Howard Kahan
Environmental Scientist

Enclosures: Cultural Resources Assessment June 2013
Cultural Resources Assessment July 2012

APPENDIX C

AIR QUALITY REPORT

taha
environmental planners

ELYSIAN PARK/USC WATER RECYCLING PROJECT AIR QUALITY IMPACT REPORT

Prepared for

AECOM

Prepared by

TERRY A. HAYES ASSOCIATES INC.

July 16, 2013

taha 2012-016

ELYSIAN PARK/USC
WATER RECYCLING PROJECT
AIR QUALITY IMPACT REPORT

Prepared for

AECOM
515 South Flower Street, 9th Floor
Los Angeles, CA 90071

Prepared by

TERRY A. HAYES ASSOCIATES INC.
8522 National Boulevard, Suite 102
Culver City, CA 90232

July 16, 2013

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APPENDICES

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. has completed an air quality analysis for the proposed Elysian Park/USC Water Recycling Project (proposed project). Key findings are listed below:

- Construction emissions would not result in an adverse impact and no mitigation measures are required.
- The proposed project would not consist of long-term operational activities. Therefore, the proposed project would not result in an adverse impact and no mitigation measures are required.
- The proposed project would not result in an adverse impact related to greenhouse gas emissions and no mitigation is required.

2.0 INTRODUCTION

2.1 PURPOSE

The purpose of this report is to evaluate the potential for air quality impacts of the proposed project. Potential air quality emissions are analyzed for construction of the proposed project. The proposed project has been prepared pursuant to the National Environmental Policy Act (NEPA).

2.2 PROJECT DESCRIPTION

With imported water supplies becoming increasingly restricted and unreliable, the Los Angeles Department of Water and Power (LADWP) 2010 Urban Water Management Plan calls for 59,000 acre feet per year (AFY) of potable supplies to be replaced by recycled water by 2035.[1] The proposed project is part of the effort to maximize the use of recycled water for non-potable uses. The proposed project would provide recycled water to some of the City of Los Angeles' largest water customers, and where feasible, switch their potable water use into recycled water use.

The project involves the delivery of recycled water to Elysian Park. A new 16-inch recycled water pipeline would be constructed from the existing recycled water pipeline serving Taylor Yard (Taylor Yard WRP), totaling approximately 10,800 linear feet. The proposed Elysian Park recycled water pipeline would connect to a proposed new approximately two million gallon (MG) recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a proposed new recycled water pumping station located on the west side of Interstate 5 (I-5, Golden State Freeway) just inside Elysian Park. The proposed route for the recycled water pipeline would roughly follow Stadium Way. In addition, to provide for the potable water uses within Elysian Park (e.g., restrooms and drinking fountains), approximately 1,000 linear feet of eight-inch potable water pipeline would be constructed from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of two-inch potable water service line with a booster pump would also be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields. **Figure 2-1** shows the proposed alignment.

[1]Recycled water is municipal wastewater that has gone through various treatment processes to meet specific water quality criteria.

LEGEND:

- Proposed Potable Water Pipeline
- Proposed Recycled Water Pipeline
- Potable Water Pumping Station
- Recycled Water Pumping Station
- Existing Water Tank

SOURCE: TAHA, 2012 and Google Earth, 2012.

Elysian Park/USC Water Recycling Project
Air Quality Impact Report

taha 2012-016

AECOM

FIGURE 2-1

PROJECT ALIGNMENT

Elysian Park WRP

Potable and Recycled Water Pipeline Installation. A new 16-inch recycled water pipeline would be constructed beginning just southwest of the Los Angeles River along the Los Angeles River Bike Path, near the northern terminus of Dorris Place in the Elysian Valley neighborhood. The beginning of the pipeline would connect to the termination point of the Taylor Yard WRP on the west side of the Los Angeles River. A total of approximately 10,800 linear feet of pipeline would be installed connecting the Taylor Yard WRP with a proposed new 2 MG recycled water storage tank located near Elysian Fields via a proposed new 3,000 gallons per minute (gpm) recycled water pump station located on the west side of I-5 just inside Elysian Park.

Installation of the recycled water pipeline within the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Street, Stadium Way, and Academy Road would use trench construction known as "cut and cover." An approximately three-foot wide by 4.5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not occurring. Once a segment of pipeline has been installed, the trench would be backfilled with materials from the excavation processed and repaved. Recycled water pipeline installation would necessitate restrictions on-street parking and closure of up to two lanes of the roadway depending on the location of construction. Installation of the recycled water pipeline from Dorris Place across I-5 would require a trenchless form of construction called "microtunneling" so as not to affect traffic on the freeway. A tunnel less than 1,000 linear feet would be tunneled beneath the freeway. Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excavated soil and other material would be disposed of at an appropriate regional landfill.

In addition, a new recycled water pumping station would be installed at the park's boundary near I-5. From the recycled water pumping station, the recycled water pipeline would be trenched along Stadium Way to Angels Point Road past the Police Academy to a hilltop adjacent to Elysian Fields. It would supply a proposed new 2 MG recycled water storage tank located on a hilltop near Elysian Fields, north of Angels Point Road. To provide for the potable water needs of Elysian Park, such as for restroom facilities and drinking fountains, a proposed new potable water booster pump would be installed within an existing pumping station near Stadium Way and Elysian Park Drive. From the potable water booster pump, a 2-inch potable water pipeline would be trenched directly up the hillside to Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields.

Approximately 1,000 linear feet of 8-inch potable water pipeline would be installed to connect the proposed new 2-inch potable water pipeline serving Elysian Fields to an existing potable water service pipeline located outside of Elysian Park within Park Drive in the Echo Park neighborhood. Trenching would occur within an existing fire road from Park Drive to Grace E. Simons Lodge where it would connect to Elysian Park Drive, travel directly up the hillside to Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields. An approximately 1.5-foot wide by 4-foot deep trench would be excavated for the 8-inch potable water pipeline. Once the 8-inch potable water pipeline has been installed within a segment, the trench would be backfilled with imported slurry and returned to its existing condition. For the 2-inch potable water pipeline, an approximately 4-inch wide by 1-foot deep trench would be excavated in the hillside. Following installation of each segment of the 2-inch potable water pipeline, the hillside would be backfilled with native soil material and returned to its existing condition.

Above-ground Structures. The proposed project would include the installation of four new, permanent above-ground structures, including a 3,000 gpm recycled water pumping station, a 3,000 gpm non-potable water pumping station, and a 30,000 gallon forebay tank at the park's boundary near I-5; a 2 MG recycled water storage tank on a hilltop near Elysian Fields; and a booster pump near Stadium Way and Elysian Park Drive.

For both the proposed new recycled water pumping station and non-potable water pumping station, flat pads of approximately 65 feet long by 30 feet wide would be cleared and graded on which to place a slab foundation and the pumping stations. The pumping stations would be exposed facilities secured by chain link fencing and standing less than 5 feet in height. Clearing of vegetation in the area would be necessary prior to construction of the concrete pads. The non-potable water pumping station would be installed to provide backup supply to the proposed new recycled water system within the park.

In addition, a new 30,000-gallon potable water forebay tank would be constructed in order to serve as a forebay, or source supply, for the non-potable water pumping station. The proposed forebay tank would connect to an existing potable water pipeline, which would supply the water to fill the tank. The forebay tank is required to maintain a constant supply of water for the non-potable pumping station, and the proposed recycled water system within the park. A flat pad would be cleared and graded on which to place the approximately 24-foot diameter forebay tank. The tank would be approximately 12 feet tall. There is an existing road that would be used to access the proposed recycled water pumping station, non-potable water pumping station, and forebay tank at this location. These facilities would be located next to an existing pumping station, which would be removed as part of this project, in a portion of the park that is not used for active recreation, picnic facilities, or passive hiking.

The recycled water pumping station would supply a proposed new 2 MG recycled water storage tank, which would be constructed on a hilltop near Elysian Fields, north of Angels Point Road. A flat pad would be cleared and graded on which to place the 85-foot diameter recycled water storage tank. The tank would be a steel structure at approximately 48 feet tall. The recycled water storage tank would be located in an area of the park that is not used for active recreation and contains an existing 500,000-gallon water tank. The existing tank would be removed as part of the project.

A proposed new potable water booster pump would be installed at the southwest corner of Stadium Way and Elysian Park Drive and housed within an existing pumping station. The booster pump would be installed to increase the pressure in the potable water pipeline in the event that potable water demand exceeds supply and water pressure drops below the required level. The area of the park in which the booster pump would be installed is currently used for passive recreation.

All areas within Elysian Park temporarily cleared or disturbed during construction, including those areas used for materials and equipment staging, would be restored at the completion of the construction process. All public roads where trenching would occur, and any park roads or other roads indirectly damaged during construction, would be repaired at the end of construction.

Construction Schedule and Procedures

Construction is anticipated to begin in December 2014 and take approximately 42 months or 3.5 years to complete, concluding in June 2018. However, construction is anticipated to be completed in two stages, the first of which would involve the pipeline installation, and the second stage would involve installation of the tanks and pumping stations. Thus, construction activities may be intermittent, not occurring continuously over the estimated construction period.

Generally, in accordance with the Noise Ordinance, construction activity would occur Mondays through Fridays from 7:00 a.m. to approximately 3:30 p.m. The City of Los Angeles Mayor's Directive #2 prohibits construction on major roads during rush hour periods (6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m.). However, due to the nature of construction activities within public roadways, construction activity could occur during rush hour periods. Therefore, LADWP would request a variance to Directive #2. Additionally, construction activity may occur on Saturdays, or at night in non-residential areas in order to complete construction of the proposed project in a timely manner. Construction would also be coordinated with the Dodgers organization and the City of Los Angeles Department of Transportation (LADOT) to minimize traffic disturbances on game days. An appropriate combination of monitoring and resource impact avoidance would be employed during all phases of the proposed project, including implementation of Best Management Practices. The proposed project would implement Rule 403 dust control measures required by the South Coast Air Quality Management District (SCAQMD), which would include the following:

1) Water shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes;

2) The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project alignment to a paved public road:
   a. Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;
   b. Pave the surface extending at least 100 feet and at least 20 feet wide;
   c. Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or
   d. Install a wheel washing system to remove bulk material from tires and vehicle undercarriages.

3) All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions);

4) Construction activity on exposed or unpaved dirt surfaces shall be suspended when wind speed exceeds 25 miles per hour (such as instantaneous gusts);

5) Ground cover in disturbed areas shall be replaced in a timely fashion when work is completed in the area;

6) Identify a community liaison concerning on-site construction activity including resolution of issues related to PM_{10} generation;

7) Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more);

8) Traffic speeds on all unpaved roads to be limited to 15 mph or less; and

9) Sweep streets at the end of the day if visible soil is carried onto adjacent public paved roads. If feasible, use water sweepers with reclaimed water.

Upon completion of the construction of the water recycling pipeline network, there will be no operational activities for the proposed project. Therefore, operational analysis will not be considered and evaluated for the proposed project.

Horizontal Directional Drilling (HDD) Alternative

An alternative for the Elysian Park WRP is considered that would involved horizontal directional drilling through the hillside within Elysian Park between the proposed recycled water pump station to the proposed location of the recycled water storage tank.

Construction Schedule and Procedures

In order to construct this alignment through the hillside, instead of following an existing public roadway, a more intensive tunneling technique known as horizontal directional drilling would be required. This entails boring an approximately 2,300-foot long tunnel under Elysian Park. The drilling site must be located in a relatively flat area of adequate dimension to accommodate construction activities, include the launching pit, and provide adequate access and egress for construction vehicles. The recycled water pipeline would be installed by a means of tunneling, a construction technique in which a tunnel is excavated using a boring machine or similar equipment, excess earth material is removed, and steel or concrete tunnel liners or supports are installed and grouted in place to secure the excavated opening. Once the tunnel is completed, the recycled water pipeline itself is installed in segments, welded together, and placed in the tunnel. The installation is completed by grouting the space between the pipe and tunnel liner. This type of construction requires a pit from which to launch the boring machine and install the pipe sections. The pit also serves as the receiving area for earth material excavated from the tunnel.

Construction of the HDD Alternative is anticipated to begin in December 2014 and take 35 months or approximately three years to complete, concluding in November 2017. However, construction of the HDD Alternative is anticipated to be completed in two stages, the first of which would involve the pipeline installation, and the second would involve installation of the tanks and pumping stations. Thus, construction activities for the HDD Alternative would be intermittent and would not occur continuously over the approximately three-year construction period

3.0 AIR QUALITY

This analysis examines the degree to which the proposed project may cause significant adverse changes to air quality. Both short-term construction emissions occurring from activities, such as excavating and haul truck trips are discussed in this section. The analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. “Emissions” refer to the quantity of pollutants released into the air, measured in pounds per day (ppd). “Concentrations” refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

3.1 POLLUTANTS & EFFECTS

The federal and State governments have established ambient air quality standards for outdoor concentrations of criteria air pollutants to protect public health. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). These pollutants are discussed below.

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spacial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[2] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood’s ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC) and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, components of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and some immunological changes.

[2]Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

Nitrogen Dioxide. NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X and VOC. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time and growth.

Toxic Air Contaminants. Toxic air contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical; its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a state law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks.

To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the average cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

Diesel Particulate Matter. According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on road diesel engines of trucks, buses and cars and the off road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to diesel PM is breathing the air that contains diesel PM. The fine and ultra-fine particles are respirable (similar to $PM_{2.5}$), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel PM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Unlike other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, California Air Resources Board (CARB) has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM.

Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, SCAQMD estimated that diesel PM accounts for 84 percent of the total risk in the South Coast Air Basin.

Greenhouse Gases. Greenhouse gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. Simply put, the greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) keep the average surface temperature of the Earth close to 60 degrees Fahrenheit (°F). Without the greenhouse effect, the Earth would be a frozen globe with an average surface temperature of about 5°F.

In addition to CO_2, CH_4, and N_2O, GHGs include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. Of all the GHGs, CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. CO_2 comprised 81 percent of the total GHG emissions in California in 2002 and non-fossil fuel CO_2 comprised 2.3 percent.[3] The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. The CO_2e of CH_4 and N_2O represented 6.4 and 6.8 percent, respectively, of the 2002 California GHG emissions. Other high global warming potential gases represented 3.5 percent of these emissions.[4] In addition, there are a number of man-made pollutants, such as CO, NO_X, non-methane VOC, and SO_2, that have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate change emissions.

3.2 REGULATORY SETTING

Federal

United States Environmental Protection Agency. The Federal Clean Air Act (CAA) governs air quality in the United States. The United State Environmental Protection Agency (USEPA) is responsible for enforcing the CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

As required by the CAA, NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table 3-1**. The USEPA has classified the South Coast Air Basin as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, PM_{10}, and Pb.

Clean Air Act. Actions taken by federal agencies could affect state, tribal, and local agencies' ability to attain and maintain the NAAQS. The 1990 amendments to federal CAA clarified and strengthen the provisions in Section 176 (c), which requires the USEPA to create rules that would ensure that federal actions would not violate the NAAQS or interfere with the purpose stated in State Implementation Plan (SIP), Transportation Implementation Plan (TIP), or Facility Implementation Plan (FIP).

[3] California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.
[4] *Ibid.*

TABLE 3-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

Pollutant	Averaging Period	California		National	
		Standards	**Attainment Status**	**Standards**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm (180 μg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 μg/m^3)	n/a	0.075 ppm (147 μg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 μg/m^3	Nonattainment	150 μg/m^3	Nonattainment
	Annual Arithmetic Mean	20 μg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 μg/m^3	Nonattainment
	Annual Arithmetic Mean	12 μg/m^3	Nonattainment	15 μg/m^3	Nonattainment
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassified/ Attainment
	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (338 μg/m^3)	Nonattainment	100 ppb (188 μg/m^3)	n/a
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Nonattainment	53 ppb (100 μg/m^3)	Unclassified/ Attainment
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 μg/m^3)	Attainment	--	--
	24-hour	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (365 μg/m^3)	Attainment
	3-hour	--	--	--	--
	Annual Arithmetic Mean	--	--	0.030 ppm (80 μg/m^3)	Attainment
Lead (Pb)	30-day average	1.5 μg/m^3	Nonattainment	--	--
	Calendar Quarter	--	--	0.15 μg/m^3	Nonattainment

n/a = not available
SOURCE: CARB, *Ambient Air Quality Standards*, June 7, 2012.

In 1993, the USEPA promulgated the General Conformity Rule (40 CFR Section 51 and 93). Any federal supported or funded projects are required to perform a General Conformity analysis to determine that the action conforms to the applicable SIP. Federal agencies must demonstrate that the funded activities shall not perform the following actions:

- Federal actions will not cause or contribute to any new air quality standard violation;
- Federal actions will not increase the frequency or severity of any existing standard violation; and/or
- Federal actions will not delay the timely attainment of any standards, interim emission reduction, or other milestone.

Actions can be exempted from a conformity determination when the total direct and indirect emissions related to both construction and operation activities is below the specified emission rate thresholds, known as *de minimis* levels, and that the emissions would be less than ten percent of the area emission budget. **Table 3-2** shows the *de minimis* levels for criteria pollutants relevant to the project area.

TABLE 3-2: FEDERAL *DE MINIMIS* LEVELS		
Pollutants	**Area Type**	**De Minimis Levels (Tons per Year)**
Ozone (VOC or NO_X)	Extreme Nonattainment	10
Carbon Monoxide (CO), Sulfur Dioxide (SO_2), and Nitrogen Dioxide (NO_2)	All Nonattainment and Maintenance	100
Respirable Particulate Matter (PM_{10})	Serious Nonattainment	70
SOURCE: USEPA, *General Conformity De Minimis Levels*, July 22, 2011.		

State

California Air Resources Board. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, the CCAA is administered by the California Air Resources Board (CARB) at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The State standards are summarized in **Table 3-1**.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, PM_{10}, PB, and NO_2.[5]

[5]CARB, Area Designation Maps, available at http://www.arb.ca.gov/desig/adm/adm.htm, accessed June 12, 2013.

Toxic Air Contaminants. CARB's Statewide comprehensive air toxics program was established in the early 1980's. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds.

California has established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. During the first step (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. During this process, CARB and the OEHHA staff draft a report that serves as the basis for this determination. CARB staff assesses the potential for human exposure to a substance and the OEHHA staff evaluates the health effects. After CARB and the OEHHA staff hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel (SRP), who reviews the report for its scientific accuracy. If the SRP approves the report, they develop specific scientific findings which are officially submitted to CARB. CARB staff then prepares a hearing notice and draft regulation to formally identify the substance as a TAC. Based on the input from the public and the information gathered from the report, the CARB decides whether to identify a substance as a TAC. In 1993, the California Legislature amended the Toxic Air Contaminant Identification and Control Act by requiring CARB to identify 189 federal hazardous air pollutants as State TACs.

In the second step (risk management), CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk.

The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a Statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

California's Diesel Risk Reduction Program. CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, the ARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase.

During the control measure phase, specific Statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Local

South Coast Air Quality Management District. The 1977 Lewis Air Quality Management Act created the SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

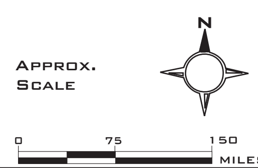
The SCAQMD monitors air quality within the project area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto mountains to the north and east; and the San Diego County line to the south (**Figure 3-1**).

Air Quality Management Plan. All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The Air Quality Management Plan (AQMP) is the SCAQMD plan for improving regional air quality. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

LEGEND:

South Coast Air Basin

State of California



SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

Elysian Park/USC Water Recycling Project
Air Quality Impact Report

taha 2012-016 AECOM

FIGURE 3-1

SOUTH COAST AIR BASIN

On December 7, 2012, the SCAQMD Governing Board adopted the 2012 AQMP to continue the progression toward clean air and compliance with State and federal requirements. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2012 AQMP proposes attainment demonstration of the federal 24-hour $PM_{2.5}$ standard by 2014 in the Basin through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the USEPA approved eight-hour O_3 control plan with new commitments for short-term NO_X and VOC reductions.

Toxic Air Contaminants. The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the South Coast Air Basin (Basin). SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million. An addendum to the plan was completed in March 2004 that included a status update on the implementation of the various mobile and stationary source strategies.

Global Climate Change

In response to growing scientific and political concern with global climate change, California adopted a series of laws to reduce emissions of GHGs into the atmosphere. Applicable regulations are provided below.

Executive Order S-3-05. On June 1, 2005, Executive Order (E.O.) S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The Executive Order establishes State GHG emission targets of 1990 levels by 2020 (the same as AB 32) and 80 percent below 1990 levels by 2050. It calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of State agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major "decarbonization" of electricity supplies and fuels, and major improvements in energy efficiency.

In response to the E.O., the Secretary of the Cal/EPA created the Climate Action Team (CAT). California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the State. The council was given formal recognition in E.O. S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 State agencies and departments. The CAT also has ten working groups which coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change
- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions
- Oceans and Coastal: Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions
- Research: Coordinating research concerning impacts of and responses to climate change in California
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from State government operations; an
- Water: Reducing GHG impacts associated with the State's water systems and exploring strategies to protect water distribution and flood protection infrastructure

The CAT is responsible for preparing reports that summarize the State's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, State research programs, policy development, and future efforts.

Assembly Bill 32. In September 2006, the State passed the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, into law. AB 32 focuses on reducing GHG emissions in California, and requires the ARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to Statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State.

AB 32 assigns CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills. On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing perfluorocarbons from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emission from the non-electricity sector. The CARB has determined that the total Statewide aggregated GHG 1990 emissions level and 2020 emissions limit is 427 million metric tons of CO_2e. The 2020 target reductions are currently estimated to be 174 million metric tons of CO_2e.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing greenhouse gas emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a Statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions, including California's.

CARB has also developed the GHG mandatory reporting regulation, which required reporting beginning on January 1, 2008 pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO_2 per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons of CO_2 per year, make up 94 percent of the point source CO_2 emissions in California.

CARB Guidance. The CARB has published draft guidance for setting interim GHG significance thresholds (October 24, 2008). The guidance is the first step toward developing the recommended Statewide interim thresholds of significance for GHG emissions that may be adopted by local agencies for their own use. The guidance does not attempt to address every type of project, but instead focuses on common project types that are responsible for substantial GHG emissions (i.e., industrial, residential, and commercial projects). The CARB believes that thresholds in these important sectors will advance climate objectives, streamline project review, and encourage consistency and uniformity in the analysis of GHG emissions throughout the State.

SCAQMD Guidance. The SCAQMD has convened a GHG Working Group to provide guidance to local lead agencies on determining significance for GHG emissions. Members of the working group include government agencies and representatives from various stakeholder groups that will provide input to the SCAQMD staff. 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. The SCAQMD has not adopted guidance for projects under other lead agencies.

Green LA Action Plan. The City of Los Angeles has issued guidance promoting green building to reduce GHG emissions. The goal of the Green LA Action Plan (Plan) is to reduce greenhouse gas emissions 35 percent below 1990 levels by 2030.[6] The Plan identifies objectives and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations, and create a framework to address City-wide GHG emissions. The Plan lists various focus areas in which to implement GHG reduction strategies. Focus areas listed in the Plan include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions. The Plan discusses City goals for each focus area, as follows:

Energy

- Increase the generation of renewable energy;
- Encourage the use of mass transit;
- Develop sustainable construction guidelines;
- Increase City-wide energy efficiency; and
- Promote energy conservation.

Water

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

Transportation

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

Other Goals

- Create a more livable City through land use regulations;
- Increase recycling, reducing emissions generated by activity associated with the Port of Los Angeles and regional airports;
- Create more City parks, promoting the environmental economic sector; and
- Adapt planning and building policies to incorporate climate change policy.

The City adopted an ordinance to establish a green building program in April 2008. The ordinance establishes green building requirements for projects involving 50 or more dwelling units. The Green Building Program was established to reduce the use of natural resources, create healthier living environments and minimize the negative impacts of development on local, regional, and global ecosystems. The program addresses the following five areas:

- Site: location, site planning, landscaping, storm water management, construction and demolition recycling
- Water Efficiency: efficient fixtures, wastewater reuse, and efficient irrigation
- Energy and Atmosphere: energy efficiency, and clean/renewable energy
- Materials and Resources: materials reuse, efficient building systems, and use of recycled and rapidly renewable materials

[6] City of Los Angeles, Green LA: An Action Plan to Lead the Nation in Fighting Global Warming, May 2007.

- Indoor Environmental Quality: improved indoor air quality, increased natural lighting, and thermal comfort/control

3.3 EXISTING AIR QUALITY

3.3.1 Air Pollution Climatology

The proposed alignment is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is in an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO emissions are produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 concentrations are also generally higher during fall and winter days.

3.3.2 Local Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the proposed alignment, the average wind speed, as recorded at the Downtown Wind Monitoring Station, is approximately five miles per hour, with calm winds occurring 7.9 percent of the time. Wind in the vicinity of the proposed alignment predominately blows from the southwest.[7]

The annual average temperature in the project area is 74.1°F.[8] The project area experiences an average winter temperature of 67.1°F and an average summer temperature of 80.9°F. Total precipitation in the project area averages approximately 14.9 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages 9.0 inches during the winter, 3.8 inches during the spring, 2.0 inches during the fall, and less than one inch during the summer.[9]

3.3.3 Air Monitoring Data

The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. The proposed alignment is located in SCAQMD's Central Los Angeles County Air Monitoring Subregion, which is served by the Los Angeles-North Main Street Monitoring Station. The Los Angeles-North Main Street Monitoring Station is located on 1630 North Main Street and is approximately three miles southeast of the proposed alignment (**Figure 3-2**). Historical data from the Los Angeles-North Main Street Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the Los Angeles-North Main Street Monitoring Station include O_3, CO, NO_2, PM_{10}, $PM_{2.5}$, and SO_2.

Table 3-3 shows pollutant levels, the State and federal standards, and the number of exceedances recorded at the Los Angeles-North Main Street Monitoring Station from 2009 to 2011.[10] As **Table 3-3** indicates, criteria pollutants CO, NO_2, and SO_2 did not exceed the State and federal standards from 2009 to 2011. However, the one-hour State standard for O_3 was exceeded one to three times during this period. The eight-hour State standard for O_3 was exceeded zero to five times while the eight-hour federal standard for O_3 was exceeded zero to two times. The 24-hour State standard for PM_{10} was exceeded zero to four times during this period and the annual State standard for $PM_{2.5}$ was also exceeded each year from 2009 to 2011. The 24-hour federal standard for PM_{10} and the annual federal $PM_{2.5}$ was not exceeded between the year 2009 to 2011.

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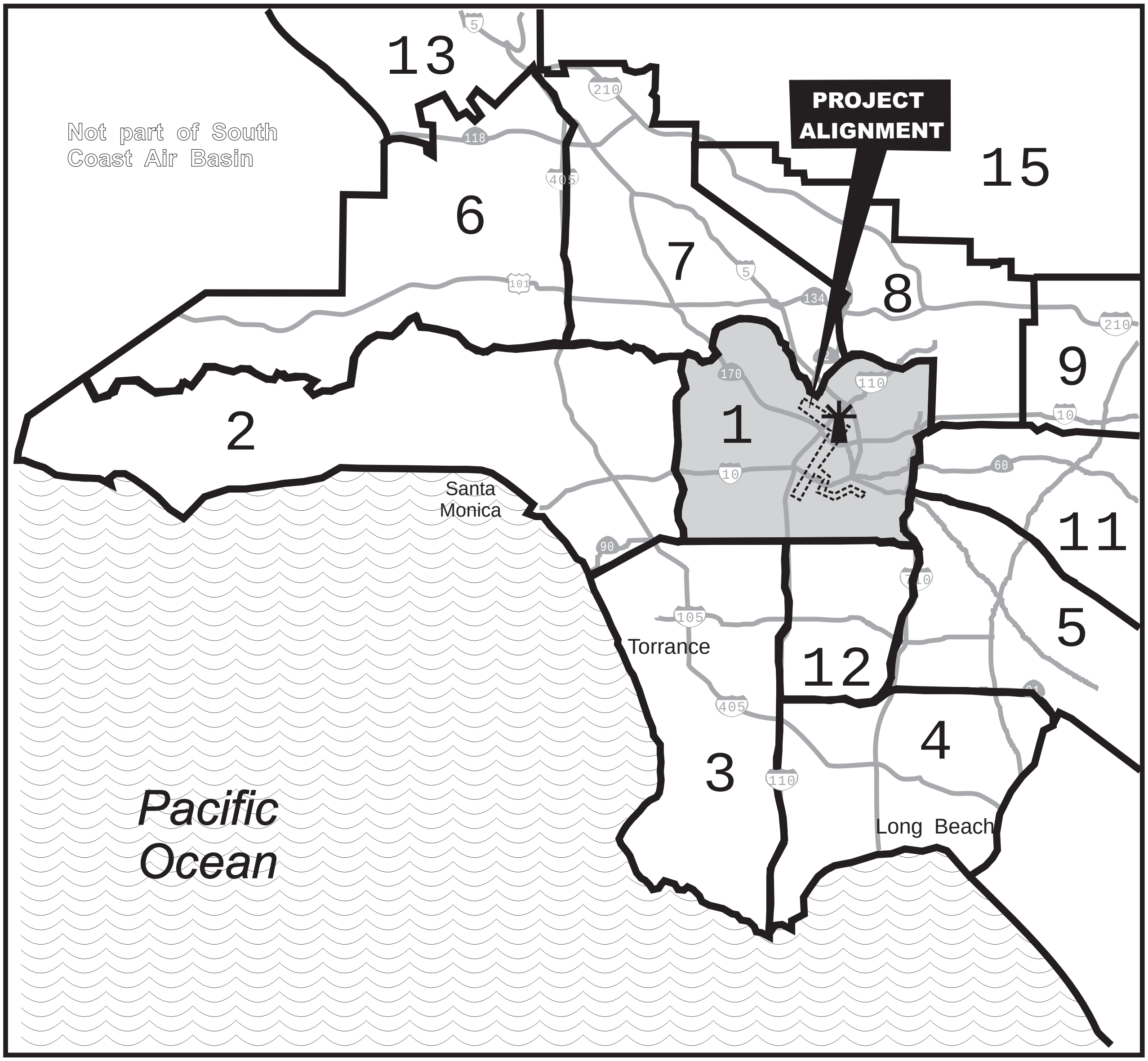
[7]SCAQMD, Meteorological Data, available at http://www.aqmd.gov/smog/metdata/MeteorologicalData.html, accessed March 8, 2012. See Appendix A.

[8]Western Regional Climate Center, Historical Climate Information, available at http://www.wrcc.dri.edu, accessed March 8, 2012.

[9]*Ibid*.

[10]Monitored data for 2011 was not available when this analysis was completed.



LEGEND: Los Angeles Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
14. Antelope Valley (not shown)
15. San Gabriel Mountains

APPROX. SCALE 0 4.5 9.0 MILES

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999.

FIGURE 3-2

AIR MONITORING AREA

TABLE 3-3: 2009-2011 AMBIENT AIR QUALITY DATA

Pollutant	Pollutant Concentration & Standards	2009	2010	2011
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.14	0.10	0.13
	Days > 0.09 ppm (State 1-hr standard)	3	1	1
	Maximum 8-hr Concentration (ppm)	0.10	0.08	0.07
	Days > 0.07 ppm (State 8-hr standard)	5	1	0
	Days > 0.075 ppm (National 8-hr standard)	2	1	0
Carbon Monoxide (CO)	Maximum 1-hr concentration (ppm)	3	3	n/a
	Days > 20 ppm (State1-hr standard)	0	0	n/a
	Days > 35 ppm (National 1-hr standard)	0	0	n/a
	Maximum 8-hr concentration (ppm)	2.2	2.3	2.4
	Days > 9.0 ppm (State 8-hr standard)	0	0	0
	Days > 9 ppm (National 8-hr standard)	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.16	0.09	0.11
	Days > 0.18 ppm (State 1-hr standard)	0	0	0
	Days > 0.100 ppm (National 1-hr standard)	n/a	n/a	n/a
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration (μg/m^3)	70	41	53
	Days > 50 μg/m^3 (State 24-hr standard)	4	0	1
	Days > 150 μg/m^3 (National 24-hr standard)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr concentration (μg/m^3)	64	39	49
	Exceed State Standard (12 μg/m^3)	Yes	Yes	Yes
	Days > 35 μg/m^3 (National 24-hr standard)	7	5	8
Sulfur Dioxide (SO_2)	Maximum 24-hr Concentration (ppm)	0.002	0.002	0.002
	Days > 0.04 ppm (State 24-hr standard)	0	0	0
	Days > 0.14 ppm (National 24-hr standard)	0	0	0

'n/a' = not available
SOURCE: CARB, Air Quality Data Statistics, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed April 30, 2012.
CO pollutant concentration was obtained from SCAQMD, Historical Data by Year, available at http://www.aqmd.gov/smog/historicaldata.htm, accessed April 30, 2012.

3.3.4 Greenhouse Gas Emissions

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century.[11] Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[12]

[11] USEPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904, April 24, 2009.
[12] *Ibid*.

- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[13]
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[14]

- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[15]

- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century;[16] and

- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[17]

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.
California is the fifteenth largest emitter of GHG on the planet, representing about two percent of the worldwide emissions.[18] **Table 3-4** shows the California GHG emissions inventory for years 2000 to 2009. Statewide GHG emissions slightly decreased in 2009 due to a noticeable drop in on-road transportation, electricity generation, and industrial emissions.

The transportation sector – largely the cars and trucks that move people and goods – is the largest contributor with 38 percent of the State's total GHG emissions in 2009. On-road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total emissions. Of the on-road vehicles, light duty passenger vehicles accounted for approximately 74 percent of the total sector emissions in 2009 GHG emissions. Transportation emissions showed a decline from 187 million metric tons of CO_2e in 2007 to 173 million metric tons of CO_2e in 2009.

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[13] Intergovernmental Panel on Climate Change, *Climate Change 2007*, 2007.
[14] *Ibid*.
[15] California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.
[16] *Ibid*.
[17] *Ibid*.
[18] CARB, Climate Change Scoping Plan, December 2008.

TABLE 3-4: CALIFORNIA GREENHOUSE GAS EMISSIONS INVENTORY

	CO_2e Emissions (Million Metric Tons)									
Sector	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Transportation	172	175	181	179	183	186	187	187	178	173
Electric Power (In-State)	60	64	51	49	50	46	51	55	55	56
Electric Power (Imports)	46	59	59	65	66	63	55	60	66	48
Commercial and Residential	43	41	43	41	43	41	42	42	42	43
Industrial	97	93	94	92	94	93	92	90	87	81
Recycling and Waste	7	7	7	7	7	7	7	7	7	7
Agriculture	29	29	32	31	32	33	34	33	33	32
Forest Net Emissions	(4.5)	(4.3)	(4.2)	(4.2)	(4.2)	(4.0)	(3.9)	(3.9)	(3.8)	(3.8)
Emissions Total	**459**	**475**	**475**	**472**	**484**	**479**	**478**	**485**	**481**	**453**

SOURCE: CARB, *California Greenhouse Gas Inventory 2000-2009*, December 2011.

The electricity sector is the next largest contributor at approximately 23 percent of the Statewide GHG emissions. This sector includes power plants and cogeneration facilities that generate electricity for on-site use and for sale to the power grid. In 2009, this sector emitted approximately 105 million metric ton of CO_2e. Emissions from imported electricity generation from specified imports, unspecified imports, and transmission and distribution accounts for 68, 31, and less than 1 percent, respectively. In-State electricity generation includes CHP commercial, CHP industrial, merchant owned, transmission and distribution, and utility owned. The percent contributions from CHP commercial is approximately 2, CHP industrial is approximately 30, merchant owned is approximately 57, transmission and distribution is approximately 1, and utility owned is approximately 18.. Emissions from natural gas accounts for 87 percent of in-State GHG emissions associated with electricity generation.

The industrial sector is the third largest contributor to the Statewide GHG emissions. California's industrial sector includes industrial CHP useful heat, landfills, manufacturing, mining, oil and gas extraction, petroleum refining, petroleum marketing, pipelines, wastewater treatment, and other large industrial sources. Of these emitters, petroleum refining, manufacturing accounts for 32, oil extraction accounts for 25, gas extraction accounts for 15, CHP accounts for 12, and landfills accounts for 8 percent.
The sector termed recycling and waste management is a unique system, encompassing not just emissions from waste facilities but also the emissions associated with the production, distribution and disposal of products throughout the economy.

Although high global warming potential gases (e.g., PFCs, HFCs, and SF6) are a small contributor to historic GHG emissions, levels of these gases are projected to increase sharply over the next several decades making them a significant source by 2020. These gases are used in growing industries such as semiconductor manufacturing.

The forest sector greenhouse gas inventory includes CO_2 uptake and greenhouse gas emissions from wild and prescribed fires, the decomposition and combustion of residues from harvest and conversion/development, and wood products decomposition. The forest sector is unique in that forests both emit GHGs and absorb CO_2 through carbon sequestration. While the current inventory shows forests absorb 3.8 million metric tons of CO_2e, carbon sequestration has declined since 2000 due to losses of forest area and emission increases from decomposing wood products consumed in the State. For this reason, the 2020 projection assumes no net emissions from forests.

The agricultural GHG emissions shown are largely methane emissions from livestock, both from the animals and their waste. Emissions of GHG from fertilizer application are also important contributors from the agricultural sector. Opportunities to sequester CO_2 in the agricultural sector may also exist; however, additional research is needed to identify and quantify potential sequestration benefits.

3.3.5 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. CARB has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes.

As shown in **Figure 3-3**, samples of sensitive receptors within one-quarter mile (1,320 feet) of the proposed pipeline route that include, but are not limited to, the following:

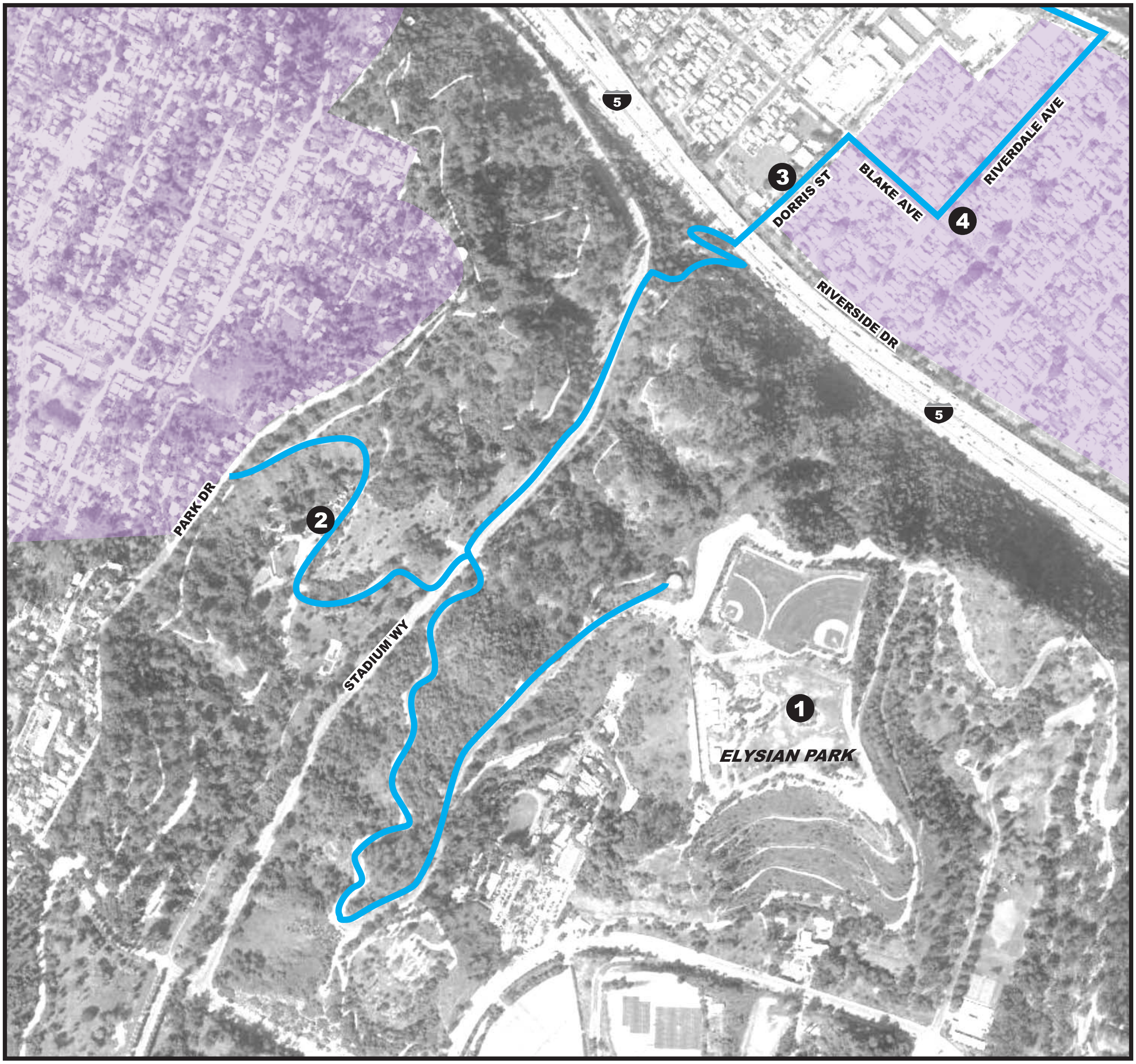
- Single-family residences located adjacent to proposed alignment
- Los Angeles Downtown Elysian Park located adjacent to proposed alignment
- Grace E. Simons Lodge located adjacent to proposed alignment
- Dorris Place Elementary School located adjacent to the proposed alignment
- Single-family residences located approximately 115 feet to the east
- St. Ann Religious Education located approximately 940 feet to the east
- Single- and multi-family residences located approximately 1,024 feet to the west

The above sensitive receptors represent the nearest residential land uses with the potential to be impacted by the proposed project. Additional sensitive receptors are located further from the project alignment in the surround community and would be less impacted by air emissions than the above sensitive receptors.

3.4 METHODOLOGY AND SIGNIFICANCE CRITERIA

3.4.1 Methodology

The estimate of emissions was based upon a detailed spreadsheet provided by LADWP that described the construction process. The spreadsheet included construction phases, equipment type and hours, truck trips, and worker commute trips by month and activity. Refer to the spreadsheet located in Appendix C, *Construction Emission Calculations*, of this Report for a detailed breakdown of construction activity assumptions. The spreadsheet was used to characterize daily activity throughout the construction process. Equipment engine emissions were estimated using OFFROAD2007 and truck and commute trips emissions were estimated using EMFAC2011. Fugitive dust emissions from sources including excavation were estimated using AP-42 emission factors.



LEGEND:

Proposed Pipeline Route

Single-Family Residences (Park and Riverside Drives)

Air Quality Sensitive Receptor Locations

1. Elysian Park

2. Grace E. Simons Lodge

3. Dorris Place Elementary School

4. St. Ann Religious School

APPROX. SCALE

0 1,060 2,120 FEET

N

SOURCE: TAHA, 2012 and Google Earth, 2012.

Elysian Park/USC Water Recycling Project
Air Quality Impact Report

taha 2012-016

AECOM

FIGURE 3-3

AIR QUALITY SENSITIVE RECEPTOR LOCATIONS

3.4.2 Impact Criteria

The Elysian Park WRP and the HDD Alternative would receive federal funds and the environmental analysis is required to include a general air quality conformity analysis. The USEPA has designated areas as attainment, nonattainment, or maintenance for each criteria pollutant based on whether the NAAQS have been achieved. As shown in **Table 3-1**, above, the proposed project is located within a federal nonattainment area for O_3 , PM_{10} $PM_{2.5}$, and PB and maintenance area for CO. This analysis does not assess sulfur dioxide and lead because USEPA has designated the Basin as an attainment area for sulfur dioxide and the proposed project would not generate lead emissions. The *de minimis* level is used to determine O_3, PM_{10}, and CO impacts. VOC and NO_X are precursors of O_3; thus, VOC and NO_X emissions are used to determine O_3 impacts. The applicable *de minimis* are shown in **Table 3-2**, above.

Greenhouse Gas Significance Criteria

The GHG impact criteria is based on the methodologies recommended by the California Air Pollution Control Officers Association (CAPCOA). CAPCOA conducted an analysis of various approaches and significance thresholds, ranging from a zero threshold (all projects are cumulatively considerable) to a high of 40,000 to 50,000 metric tons of CO_2e per year. The most conservative (i.e., lowest) thresholds, suggested by CAPCOA, would not be appropriate for the proposed project given that it is located in a community that is highly urbanized. Consequently, the threshold of 10,000 metric tons CO_2e is used as a quantitative benchmark for significance.

3.5 ENVIRONMENTAL IMPACTS

3.5.1 Construction Phase

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the proposed alignment. Fugitive dust emissions would primarily result from trenching activities. NO_X emissions would primarily result from the use of construction equipment. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the proposed alignment, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

Elysian Park WRP

The *de minimis* level is used to determine O_3, PM_{10}, and CO impacts. VOC and NO_X are precursors of O_3; thus, VOC and NO_X emissions are used to determine O_3 impacts. **Table 3-5** shows the annual construction emissions and the applicable *de minimis* thresholds for VOC, NO_X, CO, and PM_{10} related to the Elysian Park WRP. Emissions for VOC, NO_X, CO, and PM_{10}

would not exceed the *de minimis* threshold. Therefore, the Elysian Park WRP would be consistent with general air quality conformity rules and regulations. Construction emissions would not result in an adverse impact.

TABLE 3-5: ANNUAL CONSTRUCTION EMISSIONS FOR GENERAL CONFORMITY

Scenario and Construction Year	Tons Per Year			
	VOC	**NO_X**	**CO**	**PM_{10}**
Elysian Park WRP				
Year 2014	0.0	0.2	0.3	0.0
Year 2015	0.5	3.5	5.2	0.2
Year 2016	0.4	2.3	5.7	0.2
Year 2017	0.5	3.0	7.2	0.3
Year 2018	0.1	0.3	1.0	0.0
Maximum Annual Construction Total	0.5	3.5	7.2	0.3
***DE MINIMIS* THRESHOLD**	**10**	**10**	**100**	**70**
Exceed Threshold?	No	No	No	No
HDD Alternative				
Year 2016	0.05	0.4	0.26	0.03
Year 2017	0.06	0.48	0.34	0.02
Year 2018	0.03	0.23	0.18	0.01
Maximum Annual Construction Total	0.06	0.48	0.34	0.03
***DE MINIMIS* THRESHOLD**	**10**	**10**	**100**	**70**
Exceed Threshold?	No	No	No	No

SOURCE: TAHA, 2013.

HDD Alternative

Table 3-6 also shows the annual construction emissions and the applicable *de minimis* thresholds for VOC, NO_X, CO, and PM_{10} under the HDD Alternative. Emissions for VOC, NO_X, CO, and PM_{10} would not exceed the *de minimis* threshold. Therefore, the HDD Alternative would be consistent with general air quality conformity rules and regulations. Construction emissions would not result in an adverse impact.

Construction Phase Mitigation Measures

Impacts related to regional and localized air emissions were not determined to be adverse. In addition, the proposed project shall implement the following Best Management Practices during all phases of construction:

- The proposed project shall implement Rule 403 dust control measures required by the SCAQMD.
- Residences and businesses near the pipeline alignment would be notified prior to the start of construction (e.g., flyers) of lane closures and parking restrictions in their vicinity. The notices shall include a telephone number for comments or questions related to construction activities.
- The proposed project construction would incorporate source reduction techniques and recycling measures and maintain a recycling program to divert waste in accordance with the Citywide Construction and Demolition Debris Recycling Ordinance.

Impacts After Mitigation

Impacts related to conformity emissions were not determined to be adverse.

3.5.2 Operational Phase

Upon completion of the proposed pipeline route, the proposed project will not include any new operational activities. Therefore, no impacts related to regional operational emissions would occur.

Operational Phase Mitigation Measures

No impacts related to operational air quality emissions would occur. No mitigation measures are required.

Impacts After Mitigation

No impacts related to operational air quality emissions would occur.

3.7 CUMULATIVE IMPACTS

3.7.1 Criteria Pollutants

An impact would occur if the proposed project resulted in a cumulative net increase in any criteria pollutant above threshold standards. Because the South Coast Air Basin is designated as a federal nonattainment area for O_3, PM_{10}, and $PM_{2.5}$, there is an ongoing regional cumulative impact associated with these pollutants. An individual project can emit these pollutants without significantly contributing to this cumulative impact depending on the magnitude of emissions. As discussed above, the proposed project would not generate air pollutant emissions that exceed the impact criteria. It is not anticipated that project emissions would combine with related emissions to substantially affect regional emissions. Therefore, the proposed project would not result in a cumulatively considerable impact related to construction air quality.

3.7.2 Global Climate Change

Elysian Park WRP

Greenhouse gas emissions were estimated for equipment exhaust, truck trips, and worker commute trips. As shown in **Table 3-6**, total GHG emissions for would be 4,269 metric tons per year. The SCAQMD has developed guidance for the determination of significance of GHG construction emissions, and recommends emissions from construction be amortized over 30 years. Hence, the amortized construction emissions would result in total annual emissions of 142 metric tons of CO_2e. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The proposed project would not include significant sources of constructional and operational emissions. The proposed project would not conflict with any State or local climate change policy or regulation. Therefore, the proposed project would not result in an adverse impact related to GHG emissions.

TABLE 3-6: ANNUAL GREENHOUSE GAS EMISSIONS	
Year	**Carbon Dioxide Equivalent (Metric Tons per Year)**
Year 2014	23
Year 2015	1,129
Year 2016	1,241
Year 2017	1,631
Year 2018	245
Total Emissions	**4,269**
Total Amortized Emissions /a/	**142**
SIGNIFICANCE THRESHOLD	**10,000**
Exceed Impact Criteria?	No

/a/ The SCAQMD recommends annualizing construction emissions over 30 years in the GHG analysis.
SOURCE: TAHA, 2013.

HDD Alternative

Table 3-7 shows that total GHG emissions for the HDD Alternative would be 3,662 metric tons per year. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The HDD Alternative would not include significant sources of constructional and operational emissions and, thus, would not conflict with any State or local climate change policy or regulation. Therefore, the HDD Alternative would not result in an adverse impact related to GHG emissions.

TABLE 3-7: ANNUAL GREENHOUSE GAS EMISSIONS - HDD ALTERNATIVE	
Year	**Carbon Dioxide Equivalent (Metric Tons per Year)**
Year 2014	23
Year 2015	1,247
Year 2016	1,695
Year 2017	697
Total Emissions	**3,662**
Total Amortized Emissions /a/	**122**
SIGNIFICANCE THRESHOLD	**10,000**
Exceed Threshold?	No

/a/ The SCAQMD recommends annualizing construction emissions over 30 years in the GHG analysis.
SOURCE: TAHA, 2013.

APPENDIX D

TRAFFIC REPORT

Traffic Study for the LADWP Elysian Park-USC Water Recycling Project EIR

June 10, 2013

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Appendix

1. Introduction

This document provides a summary of the traffic impact analysis conducted for the Elysian Park Water Recycling Project. The Project has been proposed by the City of Los Angeles Department of Water & Power (LADWP) for implementation within the City of Los Angeles.

This study report assesses the potential traffic impacts of the construction of the proposed project.

1.1 Project Description

The City of Los Angeles Department of Water and Power (LADWP) proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to Elysian Park.

Proposed Project

The Elysian Park WRP involves the delivery of recycled water for Elysian Park. A new 16-inch recycled water pipeline would be constructed from the existing recycled water pipeline serving Taylor Yard, totaling approximately 10,800 linear feet. The proposed Elysian Park recycled water pipeline would connect to an approximately 2 million gallon (MG) recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park via a new recycled water pumping station located on the west side of Interstate 5 (I-5, Golden State Freeway) just inside Elysian Park.. The proposed route for the recycled water pipeline would roughly follow Stadium Way.

In addition, to provide for the potable water uses within Elysian Park (e.g., restrooms and drinking fountains), approximately 1,000 linear feet of 8-inch potable water pipeline would be constructed from Park Drive to Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pumping station would also be constructed from Grace E. Simons Lodge to Elysian Fields in order to supply the two bathrooms and drinking fountains at Elysian Fields.

Installation of the recycled water pipeline within the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, Stadium Way, and Academy Road would use trench construction known as "cut and cover." An approximately 3-foot wide by 4.5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with imported slurry and returned to its original condition. Recycled water pipeline installation would necessitate restrictions to on-street parking and closure of up to two lanes of the roadway, depending on the location of construction. The installation of the recycled water pipeline within the Los Angeles River Bike Path would require temporary closure of this portion of the bicycle facility. Installation of the recycled water pipeline from Dorris Place across I-5 would require a trenchless form of construction called "microtunneling" so as not to affect traffic on the freeway. A tunnel less than 1,000 linear feet would be excavated beneath the freeway via a procedure called "pipe jacking". Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excavated soil and other material would be removed from the pits and disposed of at an appropriate regional landfill. The pits would be backfilled with imported slurry and the roadway returned to its original condition.

As discussed in further detail below, a new recycled water pumping station would be installed at the park's boundary near I-5. From the recycled water pumping station, the recycled water pipeline would be trenched along Stadium Way to Angels Point Road past the Police Academy to a hilltop adjacent to

Elysian Fields. It would supply a proposed new 2 MG recycled water storage tank located on a hilltop near Elysian Fields, north of Angels Point Road. To provide for the potable water needs of Elysian Park, such as for restroom facilities and drinking fountains, a proposed new potable water booster pump would be installed within an existing pumping station near Stadium Way and Elysian Park Drive. From the potable water booster pump, a 2-inch potable water pipeline would be trenched directly up the hillside to Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields.

Approximately 1,000 linear feet of 8-inch potable water pipeline would be installed to connect the proposed new 2-inch potable water pipeline serving Elysian Fields to an existing potable water service pipeline located outside of Elysian Park within Park Drive in the Echo Park neighborhood. Trenching would occur within an existing fire road from Park Drive to Grace E. Simons Lodge where it would connect to Elysian Park Drive, travel directly up the hillside to Angels Point Road, then follow Angels Point Road to Park Road, and Park Road south to Elysian Fields . An approximately 1.5-foot wide by 4-foot deep trench would be excavated for the 8-inch potable water pipeline. Once the 8-inch potable water pipeline has been installed within a segment, the trench would be backfilled with imported slurry and returned to its existing condition. For the 2-inch potable water pipeline, an approximately 4-inch wide by 1-foot deep trench would be excavated in the hillside. Following installation of each segment of the 2-inch potable water pipeline, the hillside would be backfilled with native soil material and returned to its existing condition.
The construction for the proposed project is anticipated to start in December 2014 and conclude in June 2018.

<u>HDD Alternative</u>

Construction of the HDD Alternative is anticipated to begin in December 2014 and take 35 months or approximately three years to complete, concluding in November 2017. However, construction of the HDD Alternative is anticipated to be completed in two stages, the first of which would involve the pipeline installation, and the second would involve installation of the tanks and pumping stations. Thus, construction activities for the HDD Alternative would be intermittent and would not occur continuously over the approximately three-year construction period.

The proposed project would be located entirely within the City of Los Angeles.

This traffic study analyzed potential traffic impacts at study roadway segments for the following scenarios:

- Existing (2013) Conditions
- Future without Project Construction
- Future with Project Construction
- Existing (2013) Plus Project Construction

1.2 Project Location

The proposed project would be located within Elysian Park, which is located approximately 1.5 miles north of downtown Los Angeles. The park is owned by the City of Los Angeles and maintained by the Los Angeles Department of Recreation and Parks (LADRP). Elysian Park is bounded by Interstate 5 (Golden State Freeway, I-5) on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Access to Elysian Park is provided via Stadium Way, Academy Road, and Solano Avenue.

The Phase I pipeline within the Elysian Valley neighborhood would abut residential and public facilities uses. The pipeline would extend approximately 700 feet southeast along the bike path to Riverdale Avenue, approximately 1,200 feet southwest on Riverdale Avenue to Blake Avenue, approximately 550 feet northwest on Blake Avenue to Dorris Place, and approximately 550 feet southwest on Dorris Place and 360 feet continuing under I-5 before extending into Elysian Park. Dedicated in 1886 and consisting of 575 acres, Elysian Park is the oldest and second largest park in the City. The park is owned by the City of Los Angeles and maintained by LARAP. Elysian Park is bounded by I-5 on the north, State Route 110 (Pasadena Freeway, SR 110) and Solano Canyon on the east, the community of Chinatown on the south, and the community of Echo Park on the west. Access to Elysian Park is provided via Stadium Way, Academy Road, and Solano Avenue.

Figure 1 illustrates the Project corridors.

1.3 Traffic Impact Analysis Methodology

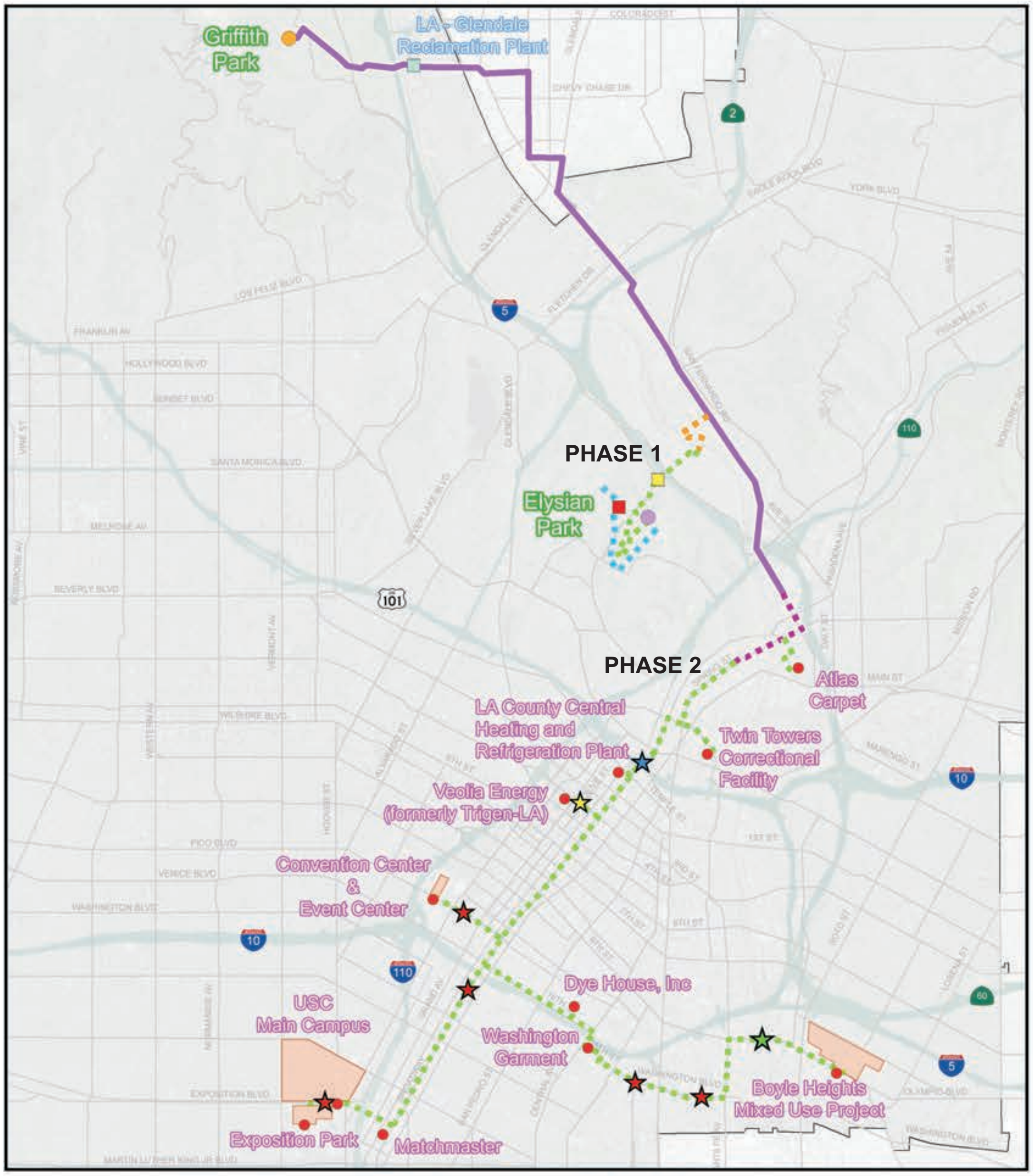
The Project was analyzed based on the route of the recycled water pipeline. The analysis includes the following:

- The use of collected daily volumes to analyze general roadway operations;
- Future roadway operations with and without the Project construction;
- Analysis of potential impacts on transit service due to lane closures; and

Existing (2013) Conditions

Fieldwork within the Project study area was undertaken to identify the condition of major roadways, to identify number of travel lanes, speed limits, parking restrictions, and other characteristics of each study roadway segment.

Daily vehicle volume counts utilized for base volumes at the study roadway segments were conducted on Thursday, April 19, 2012, Wednesday May 2, 2012, or Thursday, May 10, 2012. Two additional counts were conducted on Tuesday, May 8, 2010 to include traffic from a Los Angeles Dodgers baseball game held at Dodger Stadium. Additional counts were conducted in 2013, for two added study roadway segments on Blake Avenue and Riverdale Avenue. Traffic count locations were chosen based on the analyzed roadway corridors and their characteristics.



Elysian Park WRP

- Existing 2-Million gallon RW Tank
- Proposed 2-Million gallon RW Tanks
- Existing LAG Pump Station
- Proposed RW Pump Station for Elysian Park Tanks
- Potable Pump House to be upgraded to provide Potable Backup to the RW Tanks
- Channel Crossing
- Railroad Crossing
- Bridge
- Customers
- Existing Pipelines
- Proposed Pipelines (Elysian Park WRP)
- Proposed Potable Pipelines to the RW Tanks
- Proposed Pipelines (Taylor Yard WRP)
- Proposed Pipelines (Cornfields WRP)
- 3rd Street Tunnel

N

No Scale

Source: LADWP

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Elysian Park-USC WRP	Figure 1
	Project Corridors and Phasing

The existing traffic volumes were multiplied by a factor of 1.0146 (the same annual growth factor applied for future conditions) in order to increase year-2012 volumes to current year-2013 conditions. Existing volumes and level of service values for the study roadway segments are discussed within Section 2 of this report.

Future without Project Conditions

In order to acknowledge regional traffic growth that would affect operations at the study roadway segments during the estimated completion of project construction (2018), a traffic growth rate was applied. The growth rate was based on the 2010 Los Angeles County Congestion Management Program (CMP). The study segments are located in three separate regional statistical areas (RSA) within the Los Angeles County -- Area 21 (Vernon), Area 23 (Downtown L.A.), and Area 24 (Glendale). The highest growth rate (Area 21 – Vernon) was multiplied by a factor of two to provide an estimate of traffic growth in the study area. This provided for estimated volumes that included regional traffic growth plus additional vehicles trips generated by proposed development projects in the area.

For the proposed project, at all three study segment locations, a growth factor of 1.1460 was applied to reflect five years of traffic growth.

The future without Project scenario is discussed in Section 3 of this report.

Future with Project Conditions

The future with Project conditions analyzes the future roadway conditions with the Project trip generation calculations. The Project trips were calculated from the number of construction employees that would be working during construction within the study area.

The future with Project scenario is discussed in more detail in Section 3 of this report.

Existing (2013) Plus Project

The existing plus project scenario analyzes the existing roadway conditions with the Project construction trip generation but without future-period traffic growth. The existing roadway segment counts were conducted in year 2013. The Project trips were calculated from the number of work crews that would be working during construction within the study area.

The existing with Project scenario is discussed in more detail in Section 4 of this report.

Impact Definition

The installation of the recycled water pipeline using trench construction (i.e., "cut and cover") within the roadway will have the greatest traffic circulation impact. The trench would be covered with metal plates during periods of the day when construction is not ongoing. LADWP construction assumptions indicate that the establishment of typical work areas will necessitate the closure of one to two typical travel lanes and restrictions on parking.

Construction activity would occur Monday through Friday from 7:00 a.m. to approximately 3:30 p.m. In general, approximately 90 linear feet of pipeline would be installed at one time. Construction would occur sequentially along the alignment to minimize long-term disruption within an area. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the proposed alignments.

LADWP construction assumptions indicate that the establishment of typical work areas will necessitate the closure of one to two typical travel lanes (work area of 10 to 12 feet in width). Analysis of potential traffic circulation and area access impacts were analyzed based on these typical roadway lane closures.

Trips that would be generated by employee vehicles to the construction segments were included in the post-Project analysis. Additional construction-related trips generated along the construction segments during the moving work areas were included in the post-Project analysis.

Impact thresholds defined by LADOT and the CMP were not utilized for the Project traffic analysis. These standards define significant impacts to traffic operations and the long-term mitigation of such impacts through the provision of additional traffic signal or roadway capacity. The construction of the Project will constrict roadway capacity in affected segments; therefore, the discussion was concentrated on the capacity that can be provided during construction.

The impact analysis was based on roadway flow during construction and the generalized application of volume-to-capacity calculations. Of particular concern were study locations that would worsen in operations to or within level of service (LOS) values of E or F. These two values represent poor operating conditions.

2. Project Construction on Public Roadways

This section of the report identifies the construction activity that would occur with the proposed recycled water pipeline route. LADWP has defined approximate construction timeframes and physical dimensioning for typical work areas. These details are discussed further within this report section.

Due to the extensive surface work that is required, excavations and open trenching methods will have the greatest traffic circulation impacts. It is assumed that construction operations will require a "spread" or total work area/closure width of one or two travel lanes. During this period, temporary lane closures of roadways along the proposed Project alignment would be required, although two-way travel along the affected roadways would be maintained during construction of the Project.

This report analyzes the effects of typical construction work areas, including work areas for Steps 2, (Sawcutting, Breaking and Removal of Pavement), 3 (Excavations, Trenching, Pipeline installation, backfilling), and the physical effect of the establishment of these areas on typical roadway cross-sections. The worst-case physical extents of related roadway capacity constrictions within each Project segment have been considered.

2.1 Project Construction Details

Most of the construction activities for the Project will occur within public rights-of-way on city streets pursuant to LADWP existing franchise agreements with local governments.

Temporary lane closures along streets as required for construction would be coordinated with the other City of Los Angeles Departments such as the Bureau of Engineering (LABOE) and the City of Los Angeles Department of Transportation (LADOT). LADWP is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the *Work Area Protection and Traffic Control Manual.* The traffic control plans and associated text depicted in this manual conform to the guidelines established by the Federal and State Departments of Transportation.

LADWP would follow the recommendations in this manual regarding basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. In addition, LADWP would obtain roadway encroachment permits from the local jurisdictions and would submit traffic management plans to LABOE and LADOT for review and approval.

Project construction activities will be accomplished in the following steps:

<u>Step 1 – Survey and Trench Marking</u> – The initial step will consist of surveying and marking the center line of the trench and surveying and marking underground substructures that will need to be potholed.

<u>Step 2 – Sawcutting, Breaking and Removal of Pavement</u> – Following the marking of the center line of the trench, concrete type pavement will be sawcut and then broken while asphalt pavement will be broken. The pavement will then be hauled away for disposal.

<u>Step 3 – Excavations, Trenching, Pipeline Installation, and Backfilling</u> – Each construction crew would trench approximately 90-foot-long segments each day. The trench for Phase 1 would be approximately 3-foot wide by 4.5-foot deep. The trench for Phase 2 would be approximately 2.5-foot wide by 5-foot deep. Areas that are trenched or excavated would be covered with steel plates every evening until the

road surface is restored; this would allow for continued usage of the affected roadway. When segments of the trench line are restored, more trenching would occur farther down the street.

Throughout the construction of the trench, asphalt, concrete, and excavated material would be hauled off by truck for disposal at an approved disposal site.

In roadways, trucks would be used to haul material, typically as it is excavated from the trenches. As trucks are filled with spoils, they would leave the site and be replaced by empty trucks. Approximately six loads of excavated soils would be required per day.

As part of the final construction activities, roadway pavement would be restored, landscaping or vegetation would also be restored as necessary, and the job site would be cleaned up.

Lane closure for construction activities will be shown on the traffic control plans, to be submitted to LADOT on each construction segment. Table 1 summarizes the anticipated lane closures that will be required for work areas.

Table 1 – Anticipated Project Construction Lane Closures

ACTIVITY	NUMBER OF LANES CLOSED
Surveying	1
Sawcutting and Pavement Breaking	1
Excavation	1 or 2
Trenching	1 or 2
Pipeline Install and Backfilling	1 or 2

2.2 Project Schedule & Logistics

The length of time required for the construction of the proposed project is anticipated to start in summer 2016 and finish in summer 2018, taking approximately 2 years to complete.

The peak construction activity would be performed by approximately 51 construction workers of which 42 are field personnel and nine are office/supervision personnel.

Typical construction hours would be Monday through Friday from 7:00 a.m. to 3:30 p.m. The City of Los Angeles Rush Hour Ordinance limits in-street construction on weekdays to the hours of 9:00 a.m. through 3:30 p.m.; however, a variance to the Mayor's Executive Order No. 2 to allow construction outside those times would be requested.

2.3 Existing (2013) Conditions

The existing traffic conditions for daily and a.m. and p.m. peak-hour periods and the associated level of service values were analyzed for the 5 roadway segments. The following are the 5 study roadway segments analyzed under the proposed Project corridor analysis:

Project Area

1. Stadium Way north of Elysian Park Drive/Angels Point Road
2. Riverside Drive south of Dorris Place.
3. Dorris Place east of Riverside Drive
4. Blake Avenue south of Glover Place.
5. Riverdale Avenue east of Blake Avenue

Figure 2 illustrates the project study segments.

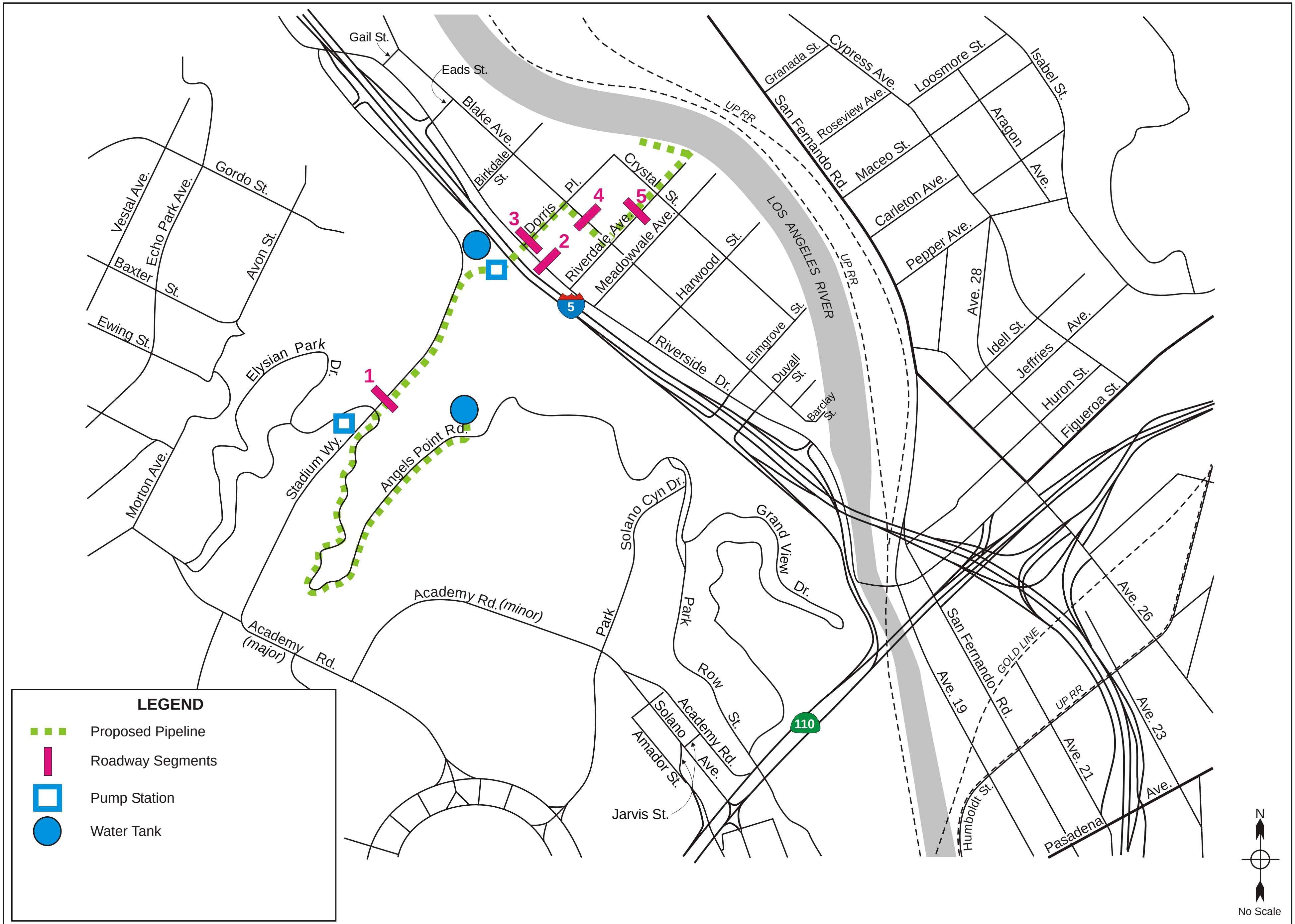
Methodology

Field surveys and traffic counts were conducted within the study area for further analysis of Project-related construction activities.

Field surveys were conducted to determine the existing study roadway segment characteristics. This data was utilized for analysis of Project construction within the study area, specifically the effects of potential lane closures during construction on traffic operations.

Average Daily Traffic (ADT) volumes were collected at multiple points for public roadways that would be part of the proposed Project route. The locations of the roadway segments are illustrated on Figure 2.

Daily vehicle volume counts utilized for base volumes at the study roadway segments were conducted either on Thursday, April 19, 2012, Wednesday May 2, 2012, or Thursday, May 10, 2012. Two additional counts were conducted on Tuesday, May 8, 2010 to include traffic from a Los Angeles Dodgers baseball game held at Dodger Stadium. The volumes were collected over a 24-hour period at each location (midnight to midnight), by automatic volume counting equipment.



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LADWP Elysian Park-USC WRP

Figure 2

Study Roadway Segments

Study Roadway Segment Characteristics

The proposed Project alignment is generally located along major roadways with two to four travel lanes in each direction and center left-turn lanes. Curbside parking is generally allowed along most of the alignment; however, parking tends to be more restrictive near commercial areas. Table 2 summarizes the study segment, number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb to curb right-of-way.

Table 2 – Project Corridor Roadway Characteristics

	Segment	From	To	Funtional Classification	Lanes NB/EB	Lanes SB/WB	Median Type	Parking Restrictions NB/EB	Parking Restrictions SB/WB	Land Use	Speed Limit	Street ROW (feet)
1	Stadium Way	Elysian Park Dr / Angel Point Rd	I-5 South on-off ramps	Secondary	3	3	DY	NSAT	NSAT	Park	35	64'
2	Riverside Dr	Dorris Pl	Glover Pl	Major Hwy Class II	2	2	DY	No Restrictions	NSAT	Freeway / Residential	35	64'
3	Dorris Pl	Riverside Dr	Blake Av	Local	1	1	NM	2Hr 9a.m. to 1:30p.m. Loading 6:30a.m. to 9a.m. / 1:30p.m. to 4p.m. NP (Friday) 12p.m. to 2p.m.	NP (Friday) 12p.m. to 2p.m.	School / Residential	No Posting	30'
4	Blake Av	Glover Pl	Riverdale Av	Local	1	1	NM	NP (Friday) 12p.m. to 2p.m.	NP (Thursday) 12p.m. to 2p.m.	School / Residential	No Posting	30'
5	Riverdale Av	Crystal St	Blake Av	Local	1	1	NM	NPAT / NP (Friday) 12p.m. to 2p.m.	NP (Thursday) 12p.m. to 2p.m.	School / Residential	No Posting	30'

Lanes - Peak/Off-Peak NM - No Median Striping RM - Raised Median NS - No Stopping NSAT - No Stopping Anytime
DY - Double Yellow 2LT - Dual Left Turn LRT - Light Rail Transit NP - No Parking MP - Metered Parking

Existing (2013) Traffic Volumes

The average daily traffic volumes within the study area, and more specifically along the proposed Project route, range from 396 vehicles to 18,842 vehicles. All 5 study segments operate at LOS A.

Daily Vehicle Volumes

The daily volumes along with the level of service values are provided in Table 3.

The roadway segment volumes for the proposed project are illustrated within the study area on Figure 4. The compiled counts at the project study roadway segments are provided within Appendix A to this report.

Table 3 – Existing (2013) Daily Vehicle Volumes and Level of Service

					Existing Conditions				
							Existing		
Segment		From	To	Scenario	Capacity	# of Lanes	Volume (2013)	V/C	LOS
1	Stadium Way	Elysian Park Dr	I-5 South on-off ramps	Non-Game Day	50,000	6	13,915	0.278	A
				Game Day			18,842	0.377	A
2	Riverside Dr	Dorris Pl	Glover Pl	Non-Game Day	40,000	4	15,538	0.388	A
				Game Day			13,922	0.348	A
3	Dorris Pl	Riverside Dr	Blake Av	Non-Game Day	15,000	2	600	0.040	A
4	Blake Av	Glover Pl	Riverdale Av	Non-Game Day	15,000	2	751	0.050	A
5	Riverdale Av	Crystal St	Blake Av	Non-Game Day	15,000	2	396	0.026	A

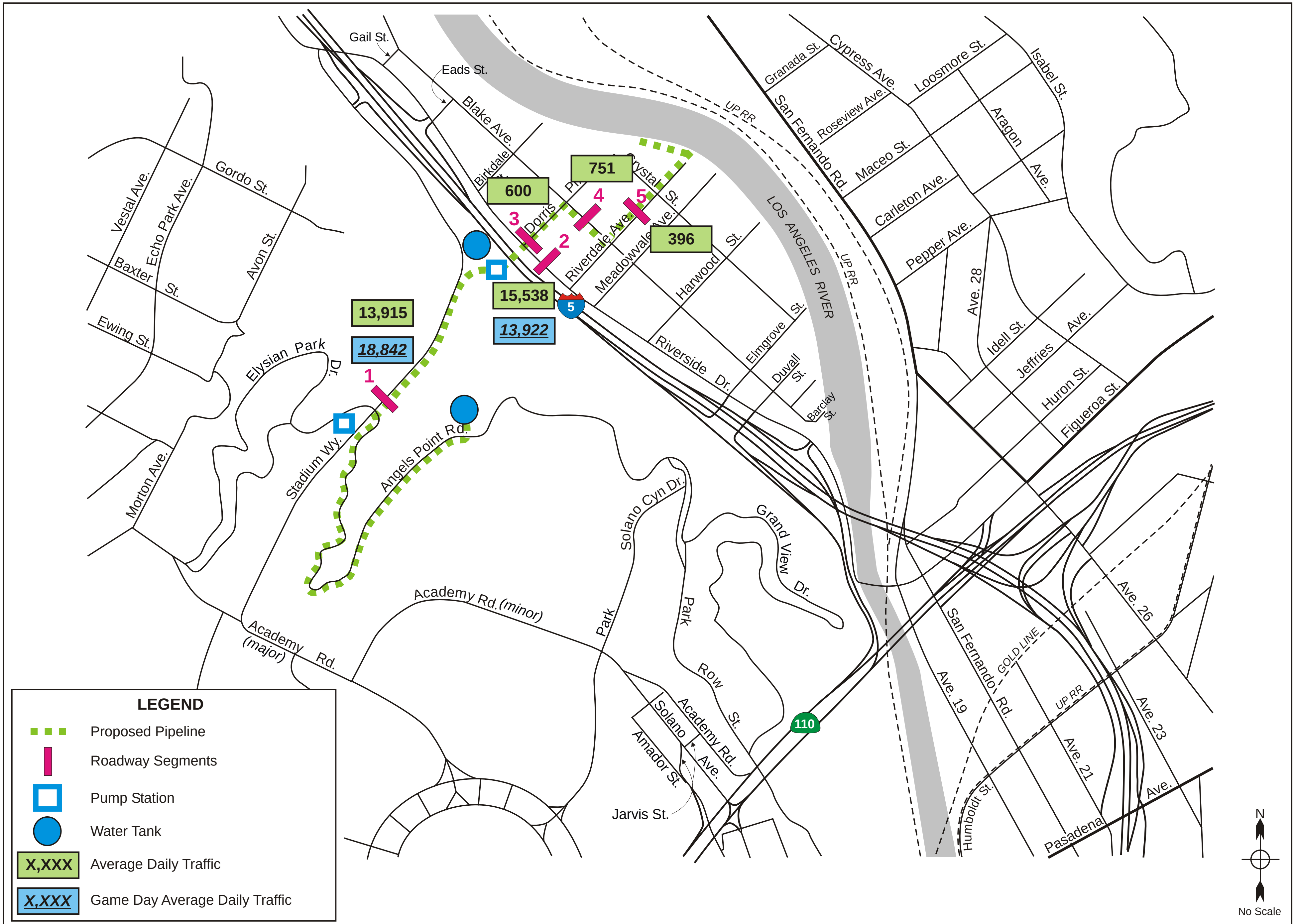

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Figure 3

Existing (2013) Average Daily Traffic Volumes

Peak-Hour Vehicle Volumes

The a.m. (between the hours of 7:00 a.m. to 9:00 a.m.) and p.m. (between the hours of 4:00 p.m. to 6:00 p.m.) peak-hour volumes for the study roadway segments exhibit similar traffic operations to daily conditions; where on average, route segments along Stadium Way and Riverside Drive have the highest volumes. The a.m. and p.m. peak hour volumes and the associated level of service values are provided in Table 4.

Table 4 – Existing (2013) Peak-Hour Vehicle Volumes and Level of Service

Segment		From	To	Scenario	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
							Volumes	V/C	LOS	Volumes	V/C	LOS
1	Stadium Way	Elysian Park Dr	I-5 South on-off ramp	Non-Game Day	6	4,500	1,828	0.406	A	1,695	0.377	A
				Game Day			1,834	0.408	A	1,846	0.410	A
2	Riverside Dr	Dorris Pl	Glover Pl	Non-Game Day	4	2,500	1,218	0.487	A	1,738	0.695	B
				Game Day			1,195	0.478	A	1,428	0.571	A
3	Dorris Pl	Riverside Dr	Blake Av	Non-Game Day	2	900	88	0.098	A	37	0.041	A
4	Blake Av	Glover Pl	Riverdale Av	Non-Game Day	2	900	114	0.127	A	84	0.093	A
5	Riverdale Av	Crystal St	Blake Av	Non-Game Day	2	900	35	0.039	A	36	0.040	A

As indicated by the LOS values in the right-most column of Table 4, during the a.m. and p.m. peak hours all the 5 roadway segments operate at level of service values of LOS A or B:

Segment 2 has the highest v/c ratio of 0.487 during the a.m. peak hour. Additionally, Segment 2 has the highest v/c ratio of 0.695 during the p.m. peak hour.

3. Proposed Project Corridor Construction Impact Analysis

This report section provides information on future conditions without and with the Project construction activities and significant traffic impacts along the proposed Project route. A discussion is provided on the impacts that could occur under typical Project construction-related lane closures along the proposed corridor.

3.1 Future Baseline Conditions

The analysis of future baseline conditions included the addition of traffic growth, based on projections within the Metro 2010 Congestion Management Program (as defined by the methodology discussion in Section 1 of this report). The highest CMP traffic growth rates in the study area were multiplied by a factor of two to provide a conservative estimate of regional traffic growth plus trips expected to be generated by proposed area projects.

A list of the area projects compiled from information maintained by City of Los Angeles Development Review staff is provided in Appendix B.

For future baseline conditions, construction would be completed by 2018 and the peak construction activity is also estimated to occur during 2018. Therefore, the year 2018 was used for the future baseline conditions analysis.

Based on the application of traffic growth rates, baseline conditions for the study roadway segments were computed. The resulting volumes and associated level of service values are provided in Table 5, which is separated by the project phases.

Table 5 – Future without Project Conditions – Peak-Hour LOS

Segment		From	To	Scenario	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
							Volumes	V/C	LOS	Volumes	V/C	LOS
1	Stadium Way	Elysian Park Dr	I-5 South on-off ramp	Non-Game Day	6	4,500	1,988	0.442	A	1,844	0.410	A
				Game Day			1,995	0.443	A	2,007	0.446	A
2	Riverside Dr	Dorris Pl	Glover Pl	Non-Game Day	4	2,500	1,324	0.530	A	1,890	0.756	C
				Game Day			1,300	0.520	A	1,553	0.621	B
3	Dorris Pl	Riverside Dr	Blake Av	Non-Game Day	2	900	96	0.107	A	40	0.044	A
4	Blake Av	Glover Pl	Riverdale Av	Non-Game Day	2	900	124	0.138	A	91	0.102	A
5	Riverdale Av	Crystal St	Blake Av	Non-Game Day	2	900	38	0.042	A	39	0.044	A

For future (2018) without Project conditions, all of the five roadway segments would operate at LOS A during the a.m. peak hour and at LOS C or better during the p.m. peak hour.

3.2 Project Trip Generation Methodology

Project trip generation calculations included construction employee vehicle trips and construction truck trip estimates. The trip generation totals were determined based on the most intense period of construction activity for the project. Truck volumes were multiplied by a factor of 2.5 to estimate the number of passenger car equivalent trips, consistent with the SCAG *Heavy Duty Truck Model* analysis and other truck studies in the region.

For Project construction, the maximum number of employees on site per day during the peak construction month (month 29 – year 2018) would be 34 employees (29 field personnel and five office/supervision staff) and the maximum truck trip activity would be 40 round trips per day. There are other periods in the project construction schedule where more daily truck trips would be needed, but the total trips analyzed represents the highest combined trips generated by both construction employees and trucks. It is assumed that daily truck construction 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.

3.3 Project Trip Generation

In calculating peak-hour trips for the project, it is assumed that a majority of the employees will arrive and depart the sites or roadway segments via 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 site before 7:00 a.m. The same would occur during the p.m. peak, 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.

It was also assumed that construction truck movement would occur prior to the a.m. peak period and 50 percent would depart during the p.m. peak period.

<u>Project Trip Generation (2018)</u>
It is assumed that Phase I daily truck delivery 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.

For Project construction, the totals within the bottom row of Table 6 indicate that, during the peak month of construction, the project would generate a daily total of 78 passenger car equivalent trips, with 20 trips occurring during the a.m. peak hour and 20 trips occurring during the p.m. peak hour.

Table 6 –Project Trip Generation

PHASE I TRIP	PEAK MONTH 2018 DAILY TRIPS			AM PEAK HOUR						PM PEAK HOUR					
				Truck Trips*		Employee Trips		Total Trips		Truck Trips*		Employee Trips		Total Trips	
	Trucks*	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Office and Supervision	0	10	10	0	0	3	0	3	0	0	0	0	3	0	3
Field Personnel	0	58	58	0	0	15	0	15	0	0	0	0	15	0	15
Delivery	10	0	10	1	1	0	0	1	1	1	1	0	0	1	1
TOTAL TRIPS	**10**	**68**	**78**	**1**	**1**	**18**	**0**	**19**	**1**	**1**	**1**	**0**	**18**	**1**	**19**

** Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.*

Field Personnel and Office/Supervision Staff - Inputs were 29 field personnel and 5 office/supervision staff, for Month 29 of construction.

<u>HDD Alternative</u>

The peak month of construction for the HDD Alternative would have the same estimated trip generation as that for the proposed Project construction plan. The HDD Alternative plan would allow for an earlier completion date of construction, but the analysis of the proposed Project plan in the year 2018 provides the most conservative analysis of impacts of either plan.

Therefore, analysis of the HDD Alternative is not carried forward into later sections of this report.

3.4 Proposed Construction Methods – Proposed Project

The work areas necessary to install the water pipelines along the proposed Project route are planned to be 10 to 12 feet in width. This total width would require the closure of one or two travel lanes, based on existing width of the travel lanes and adjacent parking in each segment. In order to provide a conservative analysis, the width of work areas was assumed to be the width of two travel lanes or one travel lane and the adjacent on-street parking area. Construction activity would occur Monday through Friday from 7:00 a.m. to approximately 3:30 p.m. Thus, the closure of one or two travel lanes would occur during the a.m. peak hour but not during the p.m. peak hour.

3.5 Future with Project Conditions

The assumed lane capacity reductions caused by Project construction during the a.m. peak hour were used to modify the capacity values within the volume-to-capacity (v/c) calculations for each of the study roadway segments. The trip generation of construction employee commute vehicles was also added to the study area. Table 7 provides the results of this analysis.

Table 7 – Future with Project Conditions – Peak-Hour LOS

Segment		From	To	Scenario	AM Peak Hour					PM Peak Hour				
					# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
1	Stadium Way	Elysian Park Dr	I-5 South on-off ran	Non-Game Day	4	2,500	2,008	0.803	D	6	4,500	1,864	0.414	A
				Game Day			2,015	0.806	D			2,027	0.450	A
2	Riverside Dr	Dorris Pl	Glover Pl	Non-Game Day	3	1,350	1,344	0.996	**E**	4	2,500	1,910	0.764	C
				Game Day			1,320	0.978	**E**			1,573	0.629	B
3	Dorris Pl	Riverside Dr	Blake Av	Non-Game Day	1	450	116	0.258	A	2	900	60	0.066	A
4	Blake Av	Glover Pl	Riverdale Av	Non-Game Day	2	900	144	0.160	A	2	900	111	0.124	A
5	Riverdale Av	Crystal St	Blake Av	Non-Game Day	2	900	58	0.065	A	2	900	59	0.066	A

For future (2018) with Project conditions, one of the five roadway segments would operate at LOS E during the a.m. peak hour.

When comparing the future without Project construction and future (2018) with Project construction scenarios, the reduced roadway capacity during the a.m. peak hour would impact the Project corridor roadways under the Phase 1 analysis as follows:.

- <u>Segment 2 (Riverside Drive)</u> – Operations would worsen from LOS A to LOS E in the a.m. peak hour.

The proposed Project alignment would be adjacent to schools and commercial, residential, industrial, and recreational/open space land uses. Access to these land uses would be partially restricted during the construction period. Left-turn movements at intersection approaches and at mid-block driveway locations would likely be impacted, depending on the location of the planned trenching.

Figure 6 provide an illustration of the future with Project daily roadway volumes at the study roadway segments.

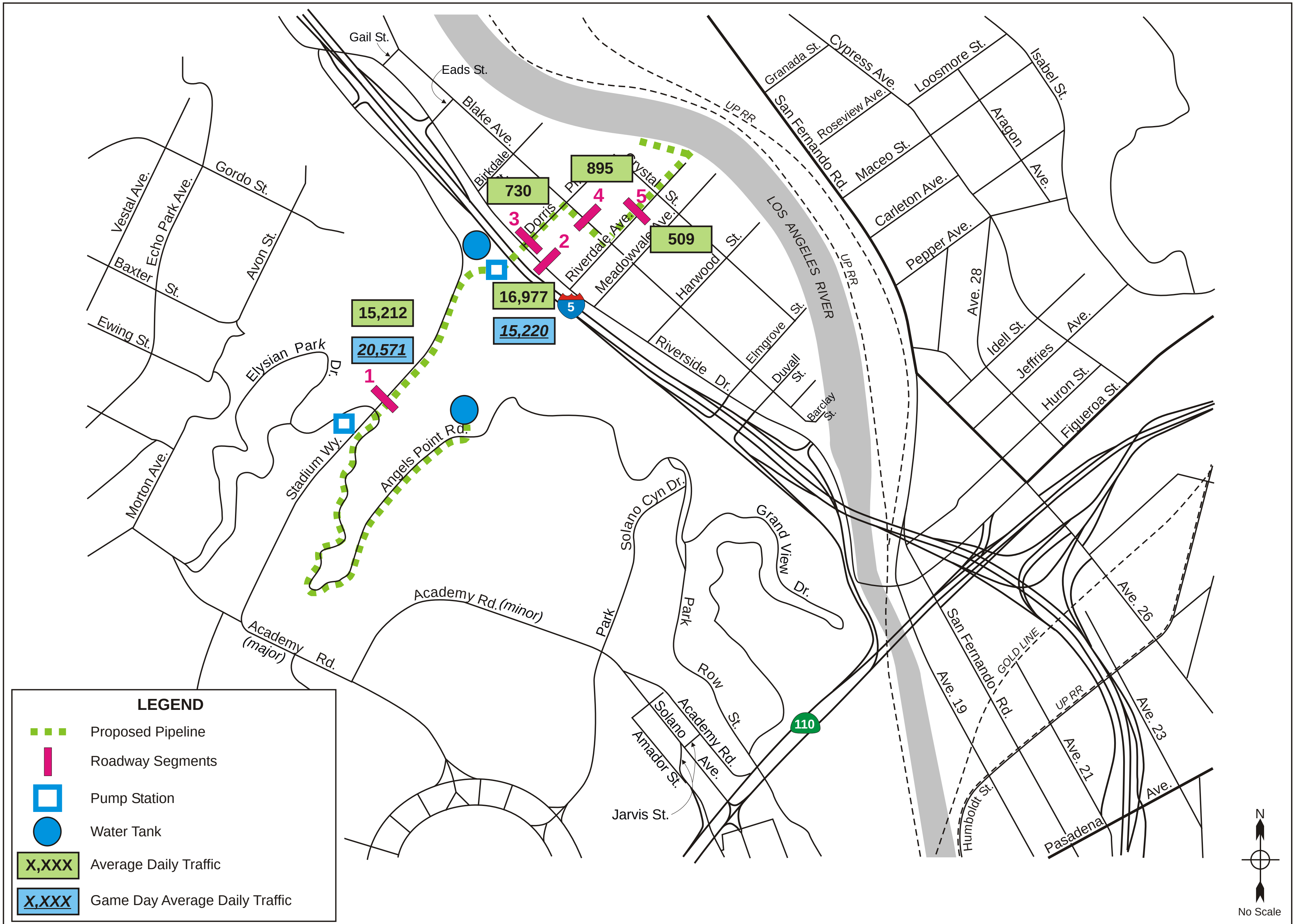

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Figure 4

Future With Project Average Daily Traffic Volumes

3.6 Traffic Flow and Analysis of Lane Closures

Key Access Issues

The proposed Project route would be adjacent to schools and commercial, residential, industrial, and recreational/open space land uses. Access to these land uses would be partially restricted during the construction period. Left turn movements at intersection approaches and at mid-block driveway locations would likely be impacted, depending on the location of the planned trenching.

Typical Lane Closures

Project construction is anticipated to result in the closing of one to two lanes along the water pipeline route. No complete street closures are currently anticipated. All construction closures will be coordinated with and approved by the City of Los Angeles and Caltrans (for State Route facilities).

Roadway Impacts

One study roadway segment, which provides both local access and sub-regional travel, will be temporarily impacted with the proposed Project construction. The reduced roadway capacity will temporarily impact the following analyzed Project corridor roadway during the a.m. peak hour:

- Operations at Segment 2 (Riverside Drive would degrade to LOS E during construction).

Recommended Actions

The following actions would mitigate any potential significant Project impacts, on the analyzed study segments where LOS values would be reduced to or within LOS E or F during construction:

- Directional capacity (generally southbound/westbound in the a.m. peak and northbound/eastbound in the p.m. peak) should be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow (non-peak direction), would help to alleviate any potential poor LOS conditions.
- Left-turn lanes and other approach lanes (as feasible) should be maintained in close vicinity to major intersections along the proposed Project route.
- Considerations for maintained access to adjacent residential driveways, as feasible, should be incorporated into the construction planning process.
- Where physical mitigation measures cannot be provided on roadway segments that would operate at LOS E or F during construction, peak-hour restrictions on construction activity would be necessary where feasible based on construction details. Otherwise, construction closure plans would minimize the effects on roadway capacity to the satisfaction of the local jurisdiction, and traffic diversions plans to other parallel roadways may also be necessary.

Underground construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of travel lanes and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone. Providing directional capacity will also help to mitigate any significant impacts to emergency vehicle access.

3.7 Potential Impacts to Pedestrian and Bicycle Access

Project construction could potentially impact pedestrian movements on sidewalks and at crosswalk locations. It is important that marked pedestrian crosswalks be maintained throughout Project construction, especially when a school or transit stop is located nearby. They should be replaced temporarily, immediately beyond the construction work area, unless a new mid-block crosswalk would be created by this replacement.

None of the project routes currently have bicycle routes or bicycle lanes. However, the City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. If bikeways are provided prior to the project construction, it is likely that the Project will include the closure of these lanes. If these lanes are closed and direct alternatives are not provided during construction (with proper detour signage), bicycle lane closure signs should be posted.

3.8 Potential Transit Service Impacts

The public transit agency serving the study area is Metro.

<u>Potential Turning Movement Restrictions</u>

Project construction would potentially disrupt transit service along the study roadway segments. The transit line shown on Table 8 may be affected by the potential lane closures and potential left-turn restrictions.

<u>Potential Bus Stop Disruptions</u>

Where bus stops become affected by Project construction activities (blocked bus stops, diverted traffic is sent into bus stop curb lane areas), temporary bus stop closures should be accommodated with replacement bus stops outside of the immediate work area. The temporary stops, however, would need to be located along wide portions of the roadway where the maximum number of travel lanes can be accommodated during construction.

Table 8 – Existing Transit

Line	From / To	To / From	Via	Frequency (Approximate)	
				Weekday	
				7:00 AM - 9:00 AM	4:00 PM - 6:00 PM
Metro - 96	Downtown Los Angeles	Burbank	Riverside Dr	28 to 30 minutes	28 to 29 minutes

Source: Metro - Los Angeles County Metropolitan Transportation Authority.

4. Existing (2013) Plus Project Conditions

A supplemental analysis was included in this document. For the existing plus Project analysis, KOA used the existing conditions roadway segment volumes.

4.1 Existing (2013) Plus Project Conditions

Table 10 provides the analysis of Project construction effects on LOS values for the existing plus Project analysis.

During the a.m. peak hour, 1 roadway segment would operate at poor levels of service of E or F (1 more than under existing conditions). Operations at the following analyzed roadway segment would worsen to or within LOS E or F in the a.m. peak hour:

- Segment 2 (Riverside Drive) operations would worsen from LOS A to LOS E.

Table 7 – Existing (2013) Plus Project Conditions – Peak-Hour LOS

	Segment	From	To	Scenario	AM Peak Hour					PM Peak Hour				
					# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
1	Stadium Way	Elysian Park Dr	I-5 South on-off ran	Non-Game Day	4	2500	1,848	0.739	C	6	4500	1,715	0.381	A
				Game Day			1,854	0.742	C			1,866	0.415	A
2	Riverside Dr	Dorris Pl	Glover Pl	Non-Game Day	3	1350	1,238	0.917	**E**	4	2500	1,758	0.703	C
				Game Day			1,215	0.900	E			1,448	0.579	A
3	Dorris Pl	Riverside Dr	Blake Av	Non-Game Day	1	450	108	0.241	A	2	900	57	0.063	A
4	Blake Av	Glover Pl	Riverdale Av	Non-Game Day	2	900	114	0.127	A	2	900	84	0.093	A
5	Riverdale Av	Crystal St	Blake Av	Non-Game Day	2	900	35	0.039	A	2	900	36	0.040	A

Figure 5 provides the daily volumes for the existing plus Project analysis.

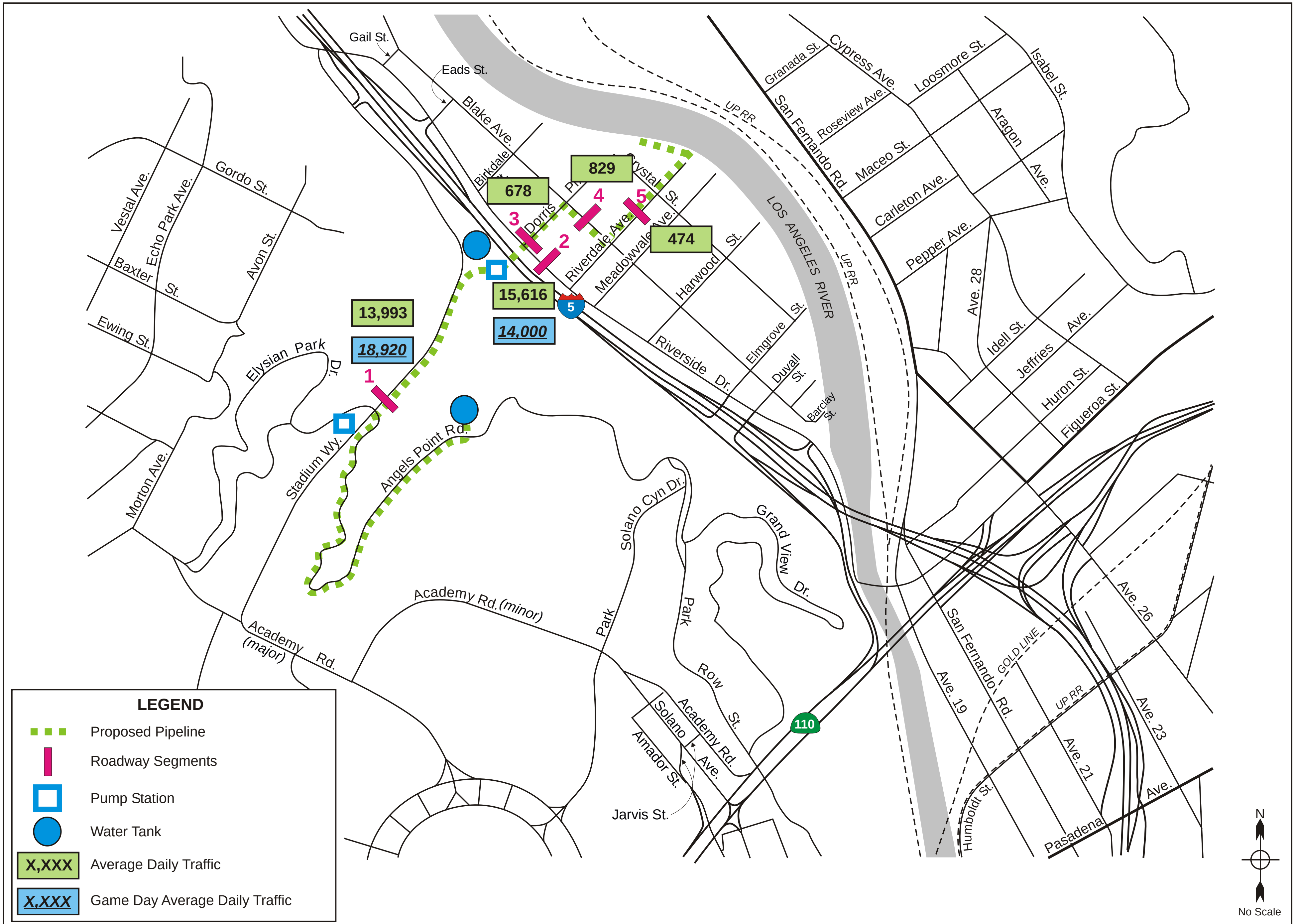

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Figure 5

Existing + Project Average Daily Traffic Volumes

5. Conclusions and Recommendations

5.1 Major Impact Conclusions

The proposed Project will not result in any permanent traffic impacts on area roadway facilities. As such, permanent physical or operations improvements to either study intersections or roadway segments are not recommended. However, the Project will potentially create significant impacts in some areas during construction, as much of the Project construction efforts will consist of excavation, open trenching, and pipeline installation that will occur on roadways that are heavily traveled. This work will reduce capacities on the roadways along the construction route.

There are no measures that can be implemented to make all Project impacts less than significant. These impacts will be temporary in nature and as such should have no lasting impact on the study roadways or the adjacent roadway systems, including monitoring stations of the Los Angeles County Congestion Management roadways on area arterials and freeways. Daily roadway and peak-hour volumes have been analyzed to achieve an understanding of the magnitude of potential roadway lane closures during construction.

The following sub-sections summarize the potential traffic impacts within each project roadway corridor along the overall Project route.

5.2 Pedestrian and Transit Impacts

Construction of the Project could potentially impact pedestrian movements on sidewalks and at crosswalk locations. It is important that marked pedestrian crosswalks be maintained throughout Project construction, especially when a school or transit stop is located nearby. They should be replaced temporarily, immediately beyond the construction work area, unless a new mid-block crosswalk would be created by this replacement.

None of the project routes currently have bicycle routes or bicycle lanes. However, the City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. The 2010 Bike Plan proposes bikeways along the following project routes: Stadium Way and Riverside Drive. If bikeways are provided prior to the project construction, it is likely that the Project will include the closure of these lanes. If these lanes are closed and direct alternatives are not provided during construction (with proper detour signage), bicycle lane closure signs should be posted.

The construction activities are also likely to affect public bus transit stops for services provided by Metro. These stops would need to be replaced temporarily outside of travel lane closure areas.

5.3 General Impacts to Roadway Facilities

As detailed construction and closure plans for the Project are not yet available, analysis was not conducted of specific intersections or specific Project segments. Capacity will be constricted, in some form, along each Project segment during construction. To help mitigate potentially significant traffic impacts along the Project route, the following actions are recommended:

- Directional capacity (generally southbound/westbound in the a.m. peak and northbound/eastbound in the p.m. peak) should be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lane for the opposite direction of traffic flow, would help to alleviate any potential poor LOS conditions.
- There are no existing signed/striped bicycle lanes or routes located along the project routes. However, the City of Los Angeles 2010 Bike Plan proposes bikeways along the following project routes: Stadium Way and Riverside Drive. If future bikeways are provided on project routes, the potential closure of these lanes in addition to adjacent on-street parking areas could be necessary during Project construction. If these lanes are closed and direct alternates are not provided during construction, bicycle lane closure signs should be posted at the next major intersections to the north and south of the construction area.
- Left-turn lanes and other approach lanes (as feasible) should be maintained in close vicinity to major intersections along the proposed Project route.
- Considerations for maintained access to adjacent residential driveways, as feasible, should be incorporated into the construction planning process.
- Where physical mitigation measures cannot be provided on roadway segments that would operate at LOS E or F during construction, peak-hour restrictions on construction activity would be necessary where feasible based on construction details. Otherwise, construction closure plans would minimize the effects on roadway capacity to the satisfaction of the local jurisdiction, and traffic diversions plans to other parallel roadways may also be necessary,

Typical traffic impact mitigation measures would not be available for impacts caused by Project construction. The need for manual traffic control, detours, and roadway/approach closures would be defined through traffic plans developed for each construction segment. These plans would be reviewed by the applicable local jurisdiction prior to implementation along the Project corridor. True mitigations would not be achieved along the Project construction areas, as capacity cannot be restored until construction is completed.

Impacts to transit service would be likely along Project segments during construction. Temporary stop relocations/closures could be necessary based on the roadway width needed for Project construction.

5.4 Recommended Traffic Control Design Considerations

To mitigate Project impacts, the final design plans for the Project should minimize the locations of complete roadways closures and to minimize the number and duration of lane closures. The Project is anticipated to use one or two travel lanes for construction work areas. Closure of entire roadways is not anticipated to be necessary for typical construction activities.

LADWP will be required to prepare worksite traffic control plans and detour plans to provide the travel lanes specified to remain open during construction. The plans must be prepared by a registered traffic or civil engineer, as appropriate based on City of Los Angeles permit guidelines, for submittal to the reviewing agency for review and approval. It is anticipated that the reviewing agency will work with LADWP to refine the traffic control lane requirements presented in the memorandum prior to preparation of final traffic control plans.

Caltrans should be contacted to obtain permits for the transport of over-sized loads, to obtain encroachment permits (if necessary), and to coordinate construction work on any State Route facilities.

Detailed construction traffic control and detour (traffic deviations via alternative routes) plans should be prepared for each phase of construction and a public outreach program should be implemented to inform the public on the need for the Project and the Project's roadway closure characteristics. A Construction Traffic Management Plan will need to be prepared and approved by the applicable local jurisdiction(s) for each construction segment prior to the start of work with public roadways along the Project corridors.

Traffic control plans should be developed in consultation with local transit agencies to minimize impacts to passenger loading areas and to minimize travel times on scheduled transit routes. All affected transit agencies must be contacted to provide for any required modifications or temporary relocation of transit facilities.

5.5 Conclusions

Once completed, the proposed Project will not create any significant impacts on the area traffic circulation system. Traffic impacts, though temporary in nature, are anticipated during construction as roadway trenching will be required to install the new water pipeline. The construction "footprint" will reduce roadway widths, thereby, in some cases, reduce the number of travel lanes and eliminate on-street parking.

LADWP has divided construction activities into two phases and short 150 to 300-foot work areas. Reviewing agencies will require Project schedules and construction worksite traffic control and detour plans to reduce the temporary Project construction impacts. These activities would mitigate potential impacts at the identified study roadway segments. The Project will not generate any new measurable and regular vehicle trips during the operations period, and long-term mitigation measures are therefore not required.

APPENDIX A –
DAILY TRAFFIC COUNTS

Prepared by NDS/ATD

VOLUME

Stadium Way N/o Elysian Park Dr/Angels Point Rd

Day: Thursday
Date: 5/10/2012

City: Los Angeles
Project #: CA12_5134_001

DAILY TOTALS	NB	SB	EB	WB	Total
	5,521	8,194	0	0	13,715

AM Period	NB		SB		EB	WB	TOTAL	
00:00	10		5				15	
00:15	11		6				17	
00:30	7		2				9	
00:45	3	31	3	16			6	47
01:00	2		5				7	
01:15	3		1				4	
01:30	5		3				8	
01:45	1	11	1	10			2	21
02:00	0		0				0	
02:15	4		0				4	
02:30	2		2				4	
02:45	1	7	1	3			2	10
03:00	3		2				5	
03:15	1		4				5	
03:30	1		4				5	
03:45	1	6	1	11			2	17
04:00	1		2				3	
04:15	1		3				4	
04:30	1		14				15	
04:45	2	5	8	27			10	32
05:00	5		13				18	
05:15	3		24				27	
05:30	6		28				34	
05:45	3	17	42	107			45	124
06:00	7		56				63	
06:15	13		102				115	
06:30	10		200				210	
06:45	8	38	280	638			288	676
07:00	14		363				377	
07:15	26		390				416	
07:30	29		453				482	
07:45	33	102	413	1619			446	1721
08:00	29		389				418	
08:15	36		420				456	
08:30	20		452				472	
08:45	32	117	400	1661			432	1778
09:00	22		340				362	
09:15	22		304				326	
09:30	26		243				269	
09:45	56	126	209	1096			265	1222
10:00	23		159				182	
10:15	25		99				124	
10:30	32		91				123	
10:45	26	106	77	426			103	532
11:00	52		59				111	
11:15	33		69				102	
11:30	30		49				79	
11:45	42	157	51	228			93	385
TOTALS		723		5842				6565
SPLIT %		11.0%		89.0%				47.9%

PM Period	NB		SB		EB	WB	TOTAL	
12:00	43		53				96	
12:15	49		57				106	
12:30	71		47				118	
12:45	53	216	53	210			106	426
13:00	50		53				103	
13:15	46		42				88	
13:30	60		52				112	
13:45	48	204	49	196			97	400
14:00	49		52				101	
14:15	65		41				106	
14:30	77		58				135	
14:45	89	280	78	229			167	509
15:00	90		43				133	
15:15	99		77				176	
15:30	133		58				191	
15:45	152	474	60	238			212	712
16:00	184		80				264	
16:15	206		89				295	
16:30	217		106				323	
16:45	259	866	85	360			344	1226
17:00	278		114				392	
17:15	324		106				430	
17:30	329		108				437	
17:45	291	1222	121	449			412	1671
18:00	201		97				298	
18:15	256		86				342	
18:30	174		61				235	
18:45	156	787	43	287			199	1074
19:00	107		46				153	
19:15	110		38				148	
19:30	66		32				98	
19:45	62	345	37	153			99	498
20:00	55		20				75	
20:15	34		26				60	
20:30	36		25				61	
20:45	32	157	21	92			53	249
21:00	32		11				43	
21:15	20		21				41	
21:30	14		14				28	
21:45	17	83	14	60			31	143
22:00	12		20				32	
22:15	13		11				24	
22:30	7		13				20	
22:45	14	46	6	50			20	96
23:00	43		13				56	
23:15	33		6				39	
23:30	32		6				38	
23:45	10	118	3	28			13	146
TOTALS		4798		2352				7150
SPLIT %		67.1%		32.9%				52.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,521	8,194	0	0	13,715

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	17:00	17:00			17:00
AM Pk Volume	205	1675			1802	PM Pk Volume	1222	449			1671
Pk Hr Factor	0.722	0.924			0.935	Pk Hr Factor	0.929	0.928			0.956
7 - 9 Volume	219	3280	0	0	3499	4 - 6 Volume	2088	809	0	0	2897
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	127	1675	0	0	1802	4 - 6 Pk Volume	1222	449	0	0	1671
Pk Hr Factor	0.882	0.924	0.000	0.000	0.935	Pk Hr Factor	0.929	0.928	0.000	0.000	0.956

Prepared by NDS/ATD

VOLUME

Stadium Way N/o Elysian Park Dr/Angels Point Rd

Day: Tuesday
Date: 5/8/2012 (Dodger Game)

City: Los Angeles
Project #: CA12_5134_001

DAILY TOTALS	NB	SB	EB	WB	Total
	7,842	10,729	0	0	18,571

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	9		4				13		12:00	48		56				104	
00:15	4		5				9		12:15	40		53				93	
00:30	5		3				8		12:30	36		62				98	
00:45	3	21	2	14			5	35	12:45	42	166	60	231			102	397
01:00	2		2				4		13:00	50		66				116	
01:15	6		4				10		13:15	52		57				109	
01:30	3		3				6		13:30	53		51				104	
01:45	1	12	2	11			3	23	13:45	53	208	41	215			94	423
02:00	2		0				2		14:00	48		58				106	
02:15	2		0				2		14:15	69		57				126	
02:30	1		1				2		14:30	87		63				150	
02:45	1	6	0	1			1	7	14:45	78	282	70	248			148	530
03:00	0		2				2		15:00	86		83				169	
03:15	0		1				1		15:15	94		74				168	
03:30	1		1				2		15:30	103		90				193	
03:45	1	2	2	6			3	8	15:45	154	437	105	352			259	789
04:00	2		0				2		16:00	144		110				254	
04:15	3		3				6		16:15	213		113				326	
04:30	1		9				10		16:30	214		105				319	
04:45	2	8	6	18			8	26	16:45	267	838	132	460			399	1298
05:00	0		8				8		17:00	251		124				375	
05:15	6		15				21		17:15	252		191				443	
05:30	4		23				27		17:30	252		168				420	
05:45	3	13	48	94			51	107	17:45	309	1064	272	755			581	1819
06:00	6		64				70		18:00	210		346				556	
06:15	7		110				117		18:15	160		390				550	
06:30	19		182				201		18:30	146		428				574	
06:45	13	45	327	683			340	728	18:45	116	632	369	1533			485	2165
07:00	24		376				400		19:00	117		283				400	
07:15	18		390				408		19:15	86		134				220	
07:30	31		413				444		19:30	84		101				185	
07:45	45	118	435	1614			480	1732	19:45	58	345	57	575			115	920
08:00	35		377				412		20:00	49		33				82	
08:15	27		445				472		20:15	46		30				76	
08:30	23		396				419		20:30	58		20				78	
08:45	30	115	405	1623			435	1738	20:45	70	223	23	106			93	329
09:00	32		359				391		21:00	109		28				137	
09:15	18		289				307		21:15	171		14				185	
09:30	37		254				291		21:30	308		14				322	
09:45	28	115	216	1118			244	1233	21:45	670	1258	14	70			684	1328
10:00	27		182				209		22:00	884		21				905	
10:15	31		140				171		22:15	513		16				529	
10:30	43		155				198		22:30	86		12				98	
10:45	39	140	136	613			175	753	22:45	48	1531	13	62			61	1593
11:00	38		78				116		23:00	37		8				45	
11:15	52		81				133		23:15	27		7				34	
11:30	44		76				120		23:30	13		5				18	
11:45	45	179	66	301			111	480	23:45	7	84	6	26			13	110
TOTALS		774		6096				6870	TOTALS		7068		4633				11701
SPLIT %		11.3%		88.7%				37.0%	SPLIT %		60.4%		39.6%				63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,842	10,729	0	0	18,571

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:15	07:30			07:30	PM Peak Hour	21:30	18:00			21:30
AM Pk Volume	189	1670			1808	PM Pk Volume	2375	1533			2440
Pk Hr Factor	0.909	0.938			0.942	Pk Hr Factor	0.672	0.895			0.674
7 - 9 Volume	233	3237	0	0	3470	4 - 6 Volume	1902	1215	0	0	3117
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	138	1670	0	0	1808	4 - 6 Pk Volume	1064	755	0	0	1819
Pk Hr Factor	0.767	0.938	0.000	0.000	0.942	Pk Hr Factor	0.861	0.694	0.000	0.000	0.783

Prepared by NDS/ATD

VOLUME

Riverside Dr S/o Dorris Pl

Day: Thursday
Date: 5/10/2012

City: Los Angeles
Project #: CA12_5134_024

DAILY TOTALS	NB	SB	EB	WB	Total
	7,556	7,758	0	0	15,314

AM Period	NB		SB		EB	WB	TOTAL	
00:00	10		11				21	
00:15	9		12				21	
00:30	5		13				18	
00:45	9	33	12	48			21	81
01:00	2		8				10	
01:15	4		5				9	
01:30	5		8				13	
01:45	1	12	6	27			7	39
02:00	5		10				15	
02:15	2		8				10	
02:30	0		6				6	
02:45	2	9	4	28			6	37
03:00	3		6				9	
03:15	3		3				6	
03:30	3		6				9	
03:45	8	17	3	18			11	35
04:00	2		5				7	
04:15	1		2				3	
04:30	6		5				11	
04:45	7	16	8	20			15	36
05:00	9		7				16	
05:15	20		18				38	
05:30	27		27				54	
05:45	26	82	37	89			63	171
06:00	37		26				63	
06:15	49		43				92	
06:30	66		56				122	
06:45	74	226	76	201			150	427
07:00	81		104				185	
07:15	120		129				249	
07:30	125		164				289	
07:45	130	456	179	576			309	1032
08:00	139		184				323	
08:15	87		192				279	
08:30	116		157				273	
08:45	97	439	175	708			272	1147
09:00	97		130				227	
09:15	86		131				217	
09:30	71		129				200	
09:45	71	325	120	510			191	835
10:00	70		95				165	
10:15	76		95				171	
10:30	58		110				168	
10:45	68	272	92	392			160	664
11:00	55		85				140	
11:15	70		92				162	
11:30	71		82				153	
11:45	73	269	77	336			150	605
TOTALS		2156		2953				**5109**
SPLIT %		42.2%		57.8%				**33.4%**

PM Period	NB		SB		EB	WB	TOTAL	
12:00	68		82				150	
12:15	68		94				162	
12:30	73		77				150	
12:45	62	271	99	352			161	623
13:00	67		85				152	
13:15	70		84				154	
13:30	79		98				177	
13:45	79	295	110	377			189	672
14:00	76		91				167	
14:15	89		86				175	
14:30	187		147				334	
14:45	202	554	129	453			331	1007
15:00	179		126				305	
15:15	165		136				301	
15:30	170		136				306	
15:45	206	720	148	546			354	1266
16:00	178		166				344	
16:15	203		179				382	
16:30	202		183				385	
16:45	170	753	181	709			351	1462
17:00	216		176				392	
17:15	236		182				418	
17:30	256		172				428	
17:45	284	992	191	721			475	1713
18:00	264		152				416	
18:15	229		104				333	
18:30	237		118				355	
18:45	173	903	90	464			263	1367
19:00	134		79				213	
19:15	79		116				195	
19:30	64		85				149	
19:45	74	351	90	370			164	721
20:00	69		76				145	
20:15	41		62				103	
20:30	47		77				124	
20:45	46	203	57	272			103	475
21:00	37		74				111	
21:15	26		62				88	
21:30	24		52				76	
21:45	33	120	63	251			96	371
22:00	33		57				90	
22:15	26		35				61	
22:30	22		47				69	
22:45	20	101	49	188			69	289
23:00	22		31				53	
23:15	35		19				54	
23:30	37		33				70	
23:45	43	137	19	102			62	239
TOTALS		5400		4805				**10205**
SPLIT %		52.9%		47.1%				**66.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	7,556	7,758	0	0	15,314

	NB	SB	EB	WB	Total
AM Peak Hour	07:15	07:30			**07:30**
AM Pk Volume	514	719			**1200**
Pk Hr Factor	0.924	0.936			**0.929**
7 - 9 Volume	895	1284	0	0	**2179**
7 - 9 Peak Hour	07:15	07:30			**07:30**
7 - 9 Pk Volume	514	719	0	0	**1200**
Pk Hr Factor	0.924	0.936	0.000	0.000	**0.929**

	NB	SB	EB	WB	Total
PM Peak Hour	17:15	16:30			**17:15**
PM Pk Volume	1040	722			**1737**
Pk Hr Factor	0.915	0.986			**0.914**
4 - 6 Volume	1745	1430	0	0	**3175**
4 - 6 Peak Hour	17:00	16:30			**17:00**
4 - 6 Pk Volume	992	722	0	0	**1713**
Pk Hr Factor	0.873	0.986	0.000	0.000	**0.902**

Prepared by NDS/ATD

VOLUME

Riverside Dr S/o Dorris Pl

Day: Tuesday
Date: 5/8/2012 (Dodger Game)

City: Los Angeles
Project #: CA12_5134_024

DAILY TOTALS	NB	SB	EB	WB	Total
	6,728	6,994	0	0	13,722

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	14		19				33		12:00	70		72				142	
00:15	11		9				20		12:15	69		82				151	
00:30	8		13				21		12:30	119		84				203	
00:45	3	36	12	53			15	89	12:45	98	356	89	327			187	683
01:00	8		4				12		13:00	78		89				167	
01:15	8		11				19		13:15	65		76				141	
01:30	3		13				16		13:30	76		73				149	
01:45	1	20	5	33			6	53	13:45	84	303	95	333			179	636
02:00	3		6				9		14:00	77		100				177	
02:15	3		7				10		14:15	76		76				152	
02:30	6		4				10		14:30	60		132				192	
02:45	3	15	7	24			10	39	14:45	94	307	119	427			213	734
03:00	2		5				7		15:00	168		132				300	
03:15	1		7				8		15:15	155		117				272	
03:30	4		6				10		15:30	173		112				285	
03:45	3	10	5	23			8	33	15:45	179	675	149	510			328	1185
04:00	3		2				5		16:00	158		145				303	
04:15	4		4				8		16:15	187		113				300	
04:30	6		3				9		16:30	207		127				334	
04:45	7	20	4	13			11	33	16:45	185	737	114	499			299	1236
05:00	11		20				31		17:00	188		125				313	
05:15	20		18				38		17:15	224		146				370	
05:30	28		20				48		17:30	235		144				379	
05:45	25	84	27	85			52	169	17:45	238	885	107	522			345	1407
06:00	37		30				67		18:00	201		102				303	
06:15	46		40				86		18:15	147		103				250	
06:30	78		53				131		18:30	124		109				233	
06:45	65	226	81	204			146	430	18:45	110	582	101	415			211	997
07:00	88		91				179		19:00	88		101				189	
07:15	102		127				229		19:15	58		82				140	
07:30	141		162				303		19:30	68		83				151	
07:45	124	455	188	568			312	1023	19:45	46	260	78	344			124	604
08:00	123		176				299		20:00	44		54				98	
08:15	93		171				264		20:15	43		51				94	
08:30	103		146				249		20:30	51		49				100	
08:45	87	406	155	648			242	1054	20:45	44	182	59	213			103	395
09:00	80		110				190		21:00	46		61				107	
09:15	77		131				208		21:15	37		43				80	
09:30	75		126				201		21:30	26		58				84	
09:45	79	311	106	473			185	784	21:45	27	136	64	226			91	362
10:00	58		120				178		22:00	33		56				89	
10:15	72		116				188		22:15	26		54				80	
10:30	66		96				162		22:30	15		46				61	
10:45	84	280	78	410			162	690	22:45	12	86	36	192			48	278
11:00	77		67				144		23:00	18		36				54	
11:15	79		85				164		23:15	9		25				34	
11:30	74		107				181		23:30	16		22				38	
11:45	69	299	90	349			159	648	23:45	14	57	20	103			34	160
TOTALS		2162		2883				5045	TOTALS		4566		4111				8677
SPLIT %		42.9%		57.1%				36.8%	SPLIT %		52.6%		47.4%				63.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	6,728	6,994	0	0	13,722

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	07:15	07:30			07:30	PM Peak Hour	17:15	15:45			17:00
AM Pk Volume	490	697			1178	PM Pk Volume	898	534			1407
Pk Hr Factor	0.869	0.927			0.944	Pk Hr Factor	0.943	0.896			0.928
7 - 9 Volume	861	1216	0	0	2077	4 - 6 Volume	1622	1021	0	0	2643
7 - 9 Peak Hour	07:15	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	490	697	0	0	1178	4 - 6 Pk Volume	885	529	0	0	1407
Pk Hr Factor	0.869	0.927	0.000	0.000	0.944	Pk Hr Factor	0.930	0.906	0.000	0.000	0.928

Prepared by NDS/ATD

VOLUME

Dorris St E/o Riverside Dr

Day: Thursday **City:** Los Angeles
Date: 4/19/2012 **Project #:** CA12_5134_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	224	367	591

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		1		3		12:00			4		4		8	
00:15			0		0		0		12:15			1		3		4	
00:30			0		1		1		12:30			3		3		6	
00:45			0	2	0	2	0	4	12:45			2	10	5	15	7	25
01:00			0		0		0		13:00			1		7		8	
01:15			0		0		0		13:15			2		9		11	
01:30			0		0		0		13:30			3		8		11	
01:45			0		0		0		13:45			4	10	14	38	18	48
02:00			0		0		0		14:00			2		2		4	
02:15			0		2		2		14:15			2		10		12	
02:30			1		0		1		14:30			13		9		22	
02:45			0	1	0	2	0	3	14:45			5	22	7	28	12	50
03:00			0		0		0		15:00			4		6		10	
03:15			0		1		1		15:15			5		3		8	
03:30			0		0		0		15:30			3		7		10	
03:45			1	1	0	1	1	2	15:45			4	16	4	20	8	36
04:00			0		1		1		16:00			5		6		11	
04:15			2		1		3		16:15			3		5		8	
04:30			0		0		0		16:30			5		5		10	
04:45			0	2	0	2	0	4	16:45			3	16	4	20	7	36
05:00			0		2		2		17:00			3		4		7	
05:15			0		5		5		17:15			3		6		9	
05:30			1		4		5		17:30			4		5		9	
05:45			0	1	9	20	9	21	17:45			2	12	3	18	5	30
06:00			2		13		15		18:00			2		5		7	
06:15			0		11		11		18:15			0		10		10	
06:30			0		8		8		18:30			2		4		6	
06:45			1	3	7	39	8	42	18:45			3	7	3	22	6	29
07:00			4		2		6		19:00			3		4		7	
07:15			1		3		4		19:15			3		0		3	
07:30			12		3		15		19:30			1		5		6	
07:45			20	37	11	19	31	56	19:45			2	9	3	12	5	21
08:00			20		15		35		20:00			2		5		7	
08:15			4		2		6		20:15			3		5		8	
08:30			2		1		3		20:30			2		3		5	
08:45			1	27	5	23	6	50	20:45			3	10	6	19	9	29
09:00			0		1		1		21:00			1		5		6	
09:15			2		1		3		21:15			0		3		3	
09:30			2		3		5		21:30			2		1		3	
09:45			5	9	5	10	10	19	21:45			2	5	3	12	5	17
10:00			0		2		2		22:00			2		4		6	
10:15			1		2		3		22:15			2		3		5	
10:30			3		5		8		22:30			3		1		4	
10:45			4	8	4	13	8	21	22:45			2	9	1	9	3	18
11:00			2		4		6		23:00			0		0		0	
11:15			3		2		5		23:15			0		4		4	
11:30			0		7		7		23:30			1		1		2	
11:45			1	6	5	18	6	24	23:45			0	1	0	5	0	6
TOTALS				97		149		**246**	**TOTALS**				127		218		**345**
SPLIT %				39.4%		60.6%		**41.6%**	**SPLIT %**				36.8%		63.2%		**58.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	224	367	591

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour			07:30	05:45	**07:30**	**PM Peak Hour**			14:30	13:00	**13:45**
AM Pk Volume			56	41	**87**	**PM Pk Volume**			27	38	**56**
Pk Hr Factor			0.700	0.788	**0.621**	**Pk Hr Factor**			0.519	0.679	**0.636**
7 - 9 Volume	0	0	64	42	**106**	**4 - 6 Volume**	0	0	28	38	**66**
7 - 9 Peak Hour			07:30	07:15	**07:30**	**4 - 6 Peak Hour**			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	56	32	**87**	**4 - 6 Pk Volume**	0	0	16	20	**36**
Pk Hr Factor	0.000	0.000	0.700	0.533	**0.621**	**Pk Hr Factor**	0.000	0.000	0.800	0.833	**0.818**

APPENDIX B –
RELATED PROJECT LIST

Elysian Park-USC WRP Phase 1 and Phase 2
Related Projects - Trip Generation

Map #	Project Name	Location	Land use	Intensity	Units	Daily Total	AM Peak Total	AM Peak In	AM Peak Out	PM Peak Total	PM Peak In	PM Peak Out
1	Blossom Plaza - Mixed Use Project	900 N. Broadway	Condos Retail Restaurant	223 25.000 15.000	d.u. k.s.f. k.s.f.	3,374	184	31	153	220	147	73
2	Chinatown Gateway Project	639 N. Broadway	Apartment Retail	280 22.000	d.u. k.s.f.	2,665	152	30	122	247	161	86
3	Chinatown Condos	1101 N. Main St	Condos	300	d.u.	1,102	71	12	59	87	58	29
4	PUC Charter School	1855 N. Main St	Elementary School Middle School	550 230	Students Students	1,115	280	154	126	115	56	59
5	Taylor Yard Village - Mixed-Use	1555 N. San Fernando Rd	Apartments Condos Retail Senior Apartments	70 300 25.000 80	d.u. d.u. k.s.f. d.u.	2,708	162	28	134	224	150	74
6	Bunker Hill Mixed-Use	720 W. Cesar E Chavez Av	Condos Retail Restaurant	272 6.431 8.000	d.u. k.s.f. k.s.f.	1,639	112	19	93	147	98	49
7	LAUSD Early Educational Center & Affordable Housing Project	3000 N. Verdugo Rd	Early Education Apartments	175 45	Students d.u.	302	23	12	11	28	13	15
8	Apartments	715 N. Yale St	Apartments	65	d.u.	437	34	7	27	40	26	14
9	LA Dodger Stadium the Next 50 Years	1000 W. Elysian Park Ave	Retail Restaurant Museum Office	23.750 38.490 35.570 138.565	k.s.f. k.s.f. k.s.f. k.s.f.	4,456	199	103	96	48	28	20
10	Metro Bus Facility	920 N. Vignes St	Bus Maintenance & Operation	271 647	Buses Employees	1927	72	63	9	75	13	62
11	Condominiums	2600 W. Riverside Drive	Condos	120	d.u.	703	53	9	44	62	42	20
12	Hall of Justice Reuse Project	211 W. Temple St	Hall of Justice Bldg	456.900	k.s.f.	1052	152	128	24	146	45	101
13	Prop Q & F Public Safety Facilities	Los Angeles St/Temple St	Jail Government	179.000 30.000	k.s.f. k.s.f.	3600	375	315	60	395	122	273
14	Little Tokyo Block 8 Project	200 S. Los Angeles St	Condos Apartment Retail	570 280 50.000	d.u. d.u. k.s.f.	4,688	276	47	229	365	245	120
15	Metropolis Mixed Use	851 Franciso St	Condo Office Other Retail	836 988.225 480 46.000	d.u. k.s.f. k.s.f. k.s.f.	8,010	625	550	75	898	153	745
16	Zen Mixed-Use	250 S. Hill St	Condo Retail/Restaurant	330 12.000	d.u. k.s.f.	1,551	124	21	103	138	92	46
17	Hope Condos	1028 S. Hope St	Condo Retail	118 7.000	d.u. k.s.f.	1,013	92	16	76	75	50	25
18	Herald Examiner Building	146 W. 11th St	Apartments Condos Retail Office	20 565 37.600 32.670	d.u. d.u. k.s.f. k.s.f.	5,563	346	59	287	565	379	186
19	Grand Avenue Project [a]	100 S. Grand Av	Apartments Condos Retail Hotel Government	412 1,648 449.000 275 681.000	d.u. d.u. k.s.f. rooms k.s.f.	n/a	1,326	225	1,101	2,270	1,521	749
20	Vibiana Lofts	225 S. Los Angeles St	Condo Retail	300 3.400	d.u. k.s.f.	1,910	224	38	186	126	84	42
21	Northeast Tower	315 W. 9th St	Condo Retail	210 9.000	d.u. k.s.f.	1,100	62	11	51	98	66	32
22	Mixed Use	133 E. 6th St	Restaurant Retail Health Club	11.018 8.927 5.066	k.s.f. k.s.f. k.s.f.	1,541	24	12	12	137	81	56
23	One Santa Fe	300 S. Santa Fe	Apartments Retail Fast-food Restaurant	420 45.000 7.500 7.500	d.u. k.s.f. k.s.f. k.s.f.	8,741	564	113	451	738	480	258
24	Mixed Use	745 S. Spring St	Condo Retail	247 10.675	d.u. k.s.f.	2,841	132	22	110	256	172	84
25	Mixed Use	1150 S. Grand Av	Condo Retail Restaurant	351 12.500 12.500	d.u. k.s.f. k.s.f.	2,881	215	37	178	245	164	81
26	11th & Hill	1115 S. Hill St	Condo Restaurant	172 6.850	d.u. k.s.f.	543	0	0	0	43	29	14
27	Condominium Project	810 E. Pico Bl	Condos	131	d.u.	619	44	7	37	54	36	18
28	Center Land	418 S. Spring	Condos Retail Hotel Spa Bar	96 10.000 122 2.090 3.526	d.u. k.s.f. rooms k.s.f. k.s.f.	4,404	308	52	256	368	247	121
29	9th/Olive Mixed Use	860 S. Olive St	Live-Work Condo Retail Restaurant	98 255 18.900 7.500	d.u. d.u. k.s.f. k.s.f.	8,741	564	96	468	738	494	244

Elysian Park-USC WRP Phase 1 and Phase 2
Related Projects - Trip Generation

Map #	Project Name	Location	Land use	Intensity	Units	Daily Total	AM Peak			PM Peak		
							Total	In	Out	Total	In	Out
30	8th/Hope/Grand Project	609 W. 8th St	Condo Hotel Retail Restaurant	225 200 30.000 32.000	d.u. rooms k.s.f. k.s.f.	4,908	194	33	161	401	269	132
31	Condominium Project	1340 S. Olive St	Condos	150	d.u.	879	66	11	55	78	52	26
32	Manufacturing Project	800 E. 12th St	Manufacturing	320.497	k.s.f.	962	221	172	49	214	77	137
33	6th & Main Project	601 S. Main St	Condos Apartment Retail	205 46 20.000	d.u. d.u. k.s.f.	3,690	278	47	231	321	215	106
34	Glass Tower Project	1050 S. Grand Av	Condo Retail Restaurant	151 3.472 2.200	d.u. k.s.f. k.s.f.	973	59	10	49	86	58	28
35	Embassy Tower	848 S. Grand Av	Condo Restaurant	420 38.500	d.u. k.s.f.	9,574	478	81	397	939	629	310
36	Wilshire Grand Redevelopment [a]	930 W. Wilshire Bl	Condo Hotel Office Restaurant	100 560 1,500.000 255.000	d.u. rooms k.s.f. k.s.f.	3,624	800	725	75	858	94	764
37	Theater/Restaurant	650 S. Spring St	Theater	40.000	k.s.f.	960	0	0	0	87	44	43
38	Mixed Use	710 S. Grand Av	Apartments Retail Restaurant	700 27.000 5.000	d.u. k.s.f. k.s.f.	6,262	362	72	290	524	341	183
39	2 High-rise Condo Buildings	1360 S. Figueroa St	Condos	622	d.u.	2,210	180	31	149	200	134	66
40	Amacoan Project	1133 Hope St	Condo Restaurant	159 6.827	d.u. k.s.f.	1,063	51	9	42	92	62	30
41	Medical Office	1525 S. Grand Av	Medical Office	64.374	k.s.f.	2339	161	127	34	141	38	103
42	Libeskind Tower	1340 S. Figueroa St	Condo Spa Restaurant	273 10.000 9.000	d.u. k.s.f. k.s.f.	2,031	109	19	90	187	125	62
43	2004-CEN-1738	435 E. 20th St	Apartments	143	d.u.	628	47	9	38	55	36	19
44	2005-CEN-1894	1843 E. 41st St	Warehouse	643.000	k.s.f.	2,581	295	233	62	269	67	202
45	Boyle Heights Mixed Use	2901 E. Olympic Bl	Apartments/Condo Retail Office Medical Office	2,102 174.000 75.000 25.000	d.u. k.s.f. k.s.f. k.s.f.	11,434	803	161	642	1,113	723	390
46	Flower/23rd MU Project	2300 S. Flower St	Apartment Retail	1500 40.000	d.u. k.s.f.	8,757	429	86	343	432	281	151
47	Apartment Project	2455 S. Figueroa St	Apartments	145	d.u.	870	64	13	51	82	53	29
48	Pacific Charter Middle School	1371 W. 35th St	Middle School	300	students	81	26	14	12	0	0	0
49	Washington Boulevard Opportunity - Mercy Housing	220 E. Washington Bl	Apartments Retail Restaurant	357 7.750 7.750	d.u. k.s.f. k.s.f.	5,319	404	81	323	466	303	163
50	USC University Park Master Plan	1540 Alcazar street	Master Plan	n/a	n/a	13,574	732	469	263	1,057	490	567
51	Mixed Use	2100 S. Figueroa St	Condo Restaurant	291 7.134	d.u. k.s.f.	870	-16	-3	-13	39	26	13
52	South LA Redevelopment 3A	3671 S. Vermont Av	Apartment Retail	80 50.000	d.u. k.s.f.	1,744	66	13	53	156	101	55
53	Chinatown Metro Apartments	808 N. Spring St	Senior Apartments	123	d.u.	428	16	6	10	20	12	8
54	Chevron/Icon Plaza	Figueroa/Exposition	Apartment Retail	56 18.000	d.u. k.s.f.	1,145	47	17	30	102	56	46
55	Restaurant & Bar	220 W. 9th St	Restaurant	23.000	k.s.f.	2,069	19	9	10	172	115	57
56	8th & Grand Mixed-Use Project [a]	W. 8th between Grand and Olive	Condo Retail Restaurant	875 34.061 10.000	d.u. k.s.f. k.s.f.	4,162	257	44	213	372	249	123
57	YWCA Jobs Corps Campus	1020 S. Olive St	Apartment Office	200 43.375	rooms k.s.f.	1,318	127	74	53	135	54	81
58	Apex (Concerto)	900 S. Figueroa St	Condo Retail	629 27.000	d.u. k.s.f.	2,624	183	31	152	238	159	79
59	Park Fifith	501 S. Olive St	Condo Retail Restaurant	900 19.000 19.200	d.u. k.s.f. k.s.f.	5,109	296	50	246	437	293	144
60	LA Trade Tech College	400 Washington Bl	Master Plan	21,300	student	n/a	463	380	83	842	539	303
61	Citi Corp Plaza Phase III [a]	755 S. Figueroa St	Office	792.000	k.s.f.	4,677	699	616	83	688	117	571
	Total					**186,090**	**14,710**	**5,857**	**8,853**	**19,750**	**11,064**	**8,686**

Source: LADOT provided the list of area projects and trip generation, unless otherwise noted.
[a] DEIR Wilshire Grand Redevelopment Project, July 2010, Los Angeles Department of City Planning.