Draft Environmental Impact Report
SCH No. 2012091047

Elysian Park-Downtown Water Recycling Projects

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

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EXECUTIVE SUMMARY

ES.1 Introduction and Overview

This Environmental Impact Report (EIR) has been prepared by the Los Angeles Department of Water and Power (LADWP) to evaluate potential environmental effects that would result from development of the proposed Elysian Park-Downtown Water Recycling Projects (Elysian Park WRP and Downtown WRP). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code Section 2100 et. seq., as amended) and its implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq., 2014). LADWP is identified as the lead agency for the proposed project under CEQA.

The 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 and downtown Los Angeles. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Planning Documents. The proposed project consists of two separate projects: The Elysian Park WRP and the Downtown WRP. The term “proposed project” is used hereinafter to refer to the Elysian Park WRP and Downtown WRP collectively.

The Elysian Park WRP involves the delivery of recycled water to 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 totaling approximately 10,800 linear feet. 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 proposed new recycled water pumping station located on the west side of I-5 just inside Elysian Park. The proposed alignment for the recycled water pipeline would roughly extend along Stadium Way and Angels Point Road. 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 the Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pump house would extend from Grace E. Simons Lodge to Elysian Fields in order to supply the bathrooms and drinking fountains at Elysian Fields.

The Downtown WRP involves constructing and operating approximately 16 miles of new 16-inch recycled water pipeline from the proposed terminus at Mesnager Street near Los Angeles State Historic Park to customers located in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The mainline would roughly extend on San Pedro Street south to Jefferson Boulevard to serve customers in downtown Los Angeles. Several segments would extend from the main line segment to reach customers in Boyle Heights, Exposition Park, and the South Los Angeles Wetlands Park. Additionally, a proposed new pressure regulator station would be installed and operated on San Fernando Road south of Loosmore Street, within the community of Cypress Park.

ES.2 Project History

A Draft Mitigated Negative Declaration (MND) for the Elysian Park-Downtown Water Recycling Projects was circulated for public review and comment by LADWP starting on September 18, 2012, initiating a 30-day public review period pursuant to CEQA and its implementing guidelines. LADWP accepted comments on the document until October 31, 2012. The Draft MND was distributed to relevant public agencies, as well as adjacent property owners and occupants.

Subsequent to the close of the public review period for the Draft MND, some design modifications were made to the Elysian Park WRP, formerly referred to as Phase I of the proposed project. In 2013, pursuant to CEQA Guidelines Section 15073.5, LADWP prepared a Recirculated Draft MND to provide an explanation of the revised project description and to disclose environmental issue areas where modifications to the Elysian Park WRP necessitated revisions to the previous Draft MND analysis. The Recirculated Draft MND was circulated for comment starting on August 16, 2013, initiating a 30-day public review period pursuant to CEQA and its implementing guidelines, with the public review period closing on September 16, 2013. The Recirculated Draft MND was distributed to relevant public agencies, as well as adjacent property owners and occupants.

Following the close of the public review period for the Recirculated Draft MND, LADWP determined that physical and design constraints along a portion of the proposed alignment for the Downtown WRP, previously referred to as Phase II of the proposed project, rendered the alignment difficult to implement and that a new preferred alignment should be crafted and analyzed. Accordingly, LADWP has prepared this EIR to analyze potential environmental impacts resulting from implementation of the Elysian Park WRP and the new preferred alignment proposed for the Downtown WRP.

ES.3 Project Location and Setting

Elysian Park WRP

The Elysian Park WRP would primarily be located 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 of Los Angeles (City). The park is owned by the City and maintained by the City of 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 Elysian Park WRP would connect to the termination point of the Taylor Yard WRP and its associated proposed bikeway and pedestrian bridge 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 community. The Elysian Park WRP pipeline within the Elysian Valley community would abut residential and public facilities uses. The pipeline would extend approximately 700 feet southeast along the Los Angeles River 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 beneath I-5 before extending into Elysian Park.

Existing and Surrounding Land Uses

The Elysian Park WRP project site is primarily located within Elysian Park. However, portions of the project site include the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, and Park Drive in the Elysian Valley community. These portions of the project site currently contain a bike path and paved roadways. The remainder of the project site is located within Elysian Park. The portion of the project site at the park's boundary immediately southwest of I-5 is currently developed with a pump house that is entirely enclosed by chain link fencing. The portion of the project site at the southwest corner of the intersection of Stadium Way and Elysian Park Drive is currently developed with a pump house that is approximately 12-feet tall, four-walled stucco structure with a roof. The portion of the project site located on a hilltop near Elysian Fields currently contains a 500,000 gallon potable water tank. The other portions of the Elysian Park WRP project site located within Elysian Park consist of paved roadways, compacted dirt hiking trails, and disturbed areas.

Some construction would occur in the Elysian Valley community along the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, and Dorris Place adjacent to Dorris Place Elementary School and on Park Drive within the Echo Park neighborhood. Installation of the Elysian Park WRP would require tunneling beneath I-5. The Elysian Park WRP would abut residential, public facilities, and open space uses.

Downtown WRP

The Downtown WRP would be located within public streets in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The Downtown WRP segments would abut commercial, residential, and public facilities uses. A pressure regulator station would be constructed and operated on San Fernando Road south of Loosmore Street along an existing recycled water pipeline, upstream of the proposed Downtown WRP pipeline alignment. The proposed alignment would begin at the termination point of the Los Angeles State Historic Park WRP, which is located on Spring Street at Mesnager Street, approximately 0.5 mile southeast of Dodger Stadium. The mainline segment of the Downtown WRP would extend approximately 2,900 feet south from the termination point of the Los Angeles State Historic Park WRP on Spring Street to College Street, continue from College Street approximately 4,600 feet south on Alameda Street to Temple Street, approximately 700 feet west on Temple Street to Judge John Aiso Street, approximately 850 feet south on Judge John Aiso Street to 1st Street where Judge John Aiso Street becomes San Pedro Street, and approximately 15,000 feet south on San Pedro Street to Jefferson Boulevard. From Jefferson Boulevard, the mainline segment would split and extend west to Exposition Park as the Exposition Park segment and south along Avalon Boulevard as the South Los Angeles Wetlands Park segment. Various other segments including the Twin Towers Correctional Facilities segment, LADWP segment, Boyle Heights Mixed Use Project segment, Los Angeles Convention Center and Event Center segment, and the Dye House and Washington Garment segment would originate from the mainline segment to serve specific known customers. All proposed segments and other extensions are described below.

The Twin Towers Correctional Facilities segment would extend approximately 350 feet east of the mainline segment on Alpine Street from Alameda Street to Main Street, continue approximately 1,300 feet east on Vignes Street from Main Street to Bauchet Street, and approximately 950 feet northeast on Bauchet Street terminating at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility, located at 450 Bauchet Street.

The LADWP segment would extend from the mainline segment approximately 3,350 feet west on Temple Street from Judge John Aiso Street to Hope Street, approximately 1,200 feet south on Hope Street from Temple Street to 1st Street, approximately 700 feet west on 1st Street to Dewap Road, and approximately 1,250 feet north on Dewap Road to Temple Street, terminating at the John Ferraro Building (LADWP Headquarters), located at 111 North Hope Street. Two extensions would connect to this main segment. The first would extend approximately 300 feet north on Hill Street from Temple Street and terminate at the Los Angeles County Central Heating and Refrigeration Plant, located at 301 North Broadway. The second would extend approximately 1,200 feet south on Hope Street from 1st Street to 3rd Street, terminating at the Veolia Energy facility.

The Boyle Heights Mixed Use Project segment would extend from the mainline segment approximately 1,450 feet east on 9th Street from San Pedro Street to Gladys Avenue where 9th Street becomes Olympic Boulevard, and approximately 11,500 feet east on Olympic Boulevard from Gladys Avenue to Evergreen Avenue, including a 1,750-foot bridge crossing on Olympic Boulevard over the Los Angeles River (Olympic Boulevard Viaduct). This segment would terminate at a 68.8-acre site proposed to be redeveloped as a mixed-use community located approximately 2 miles southeast of downtown Los Angeles. The Boyle Heights Mixed Use Project site is generally bounded by East 8th Street on the north, Grande Vista Avenue on the east, Olympic Boulevard on the south, and South Soto Street on the west.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 6,500 feet west on Pico Boulevard from San Pedro Street to LA Live Way, and approximately 1,150 feet north on LA Live Way to Chick Hearn Court, terminating at the Los Angeles Convention Center and Event Center, located at 1201 South Figueroa Street.

The Dye House and Washington Garment segment would extend from the mainline segment approximately 2,600 feet east on 16th Street from San Pedro Street to Central Avenue, approximately 600 feet south on Central Avenue to 18th Street, and approximately 500 feet east on 18th Street and terminate at Washington Garment, located at 1332 East 18th Street just south of Interstate 10 (I-10). This segment would include one extension approximately 300 feet north on Griffith Avenue from 16th Street to 15th Street, terminating at Dye House Inc., located at 1510 Griffith Avenue.

The Exposition Park segment would extend from the mainline segment approximately 2,600 feet west on Jefferson Boulevard to Main Street, approximately 900 feet south on Main Street to Broadway Place, approximately 800 feet south on Broadway Place from Main Street to 37th Place to reach Matchmaster Dyeing & Finishing, Inc., located at Broadway Place and 37th Place. This segment would then extend approximately 2,600 feet west on 37th Street from Broadway Place to Figueroa Street, and approximately 2,850 feet west on Exposition Boulevard from Figueroa Street to Vermont Avenue, terminating near the University of Southern California (USC) main campus. The Exposition Park segment would include two extensions; the first would extend approximately 2,700 feet south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard, directly east of the California Science Center, California African American Museum, Los Angeles Memorial Sports Arena, and other facilities within Exposition Park. The second would extend approximately 2,700 feet south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard, directly west of the Natural History Museum of Los Angeles County, the Los Angeles Memorial Coliseum, and other facilities within Exposition Park.

The South Los Angeles Wetlands Park segment would extend from the mainline segment approximately 8,000 feet south on Avalon Boulevard from Jefferson Boulevard to 54th Street, and approximately 1,500 feet west on 54th Street from Avalon Boulevard to San Pedro Street and terminate at the South Los Angeles Wetlands Park, which is bounded by 54th Street on the north, Avalon Boulevard on the east, 55th Street on the south, and San Pedro Street on the east. This segment would also include two extensions. The first would extend approximately 1,300 feet west on 42nd Place from Avalon Boulevard to San Pedro Street terminating at Gilbert Lindsay Community Center Park, located at 425 East 42nd Place. The second would extend approximately 1,300 feet west on 51st Street from Avalon Boulevard to San Pedro Street terminating at South Park, which is bounded by Park Front Walk on the north, Avalon Boulevard on the east, 51st Street on the south, and San Pedro Street on the west.

Existing and Surrounding Land Uses

The Downtown WRP project site is entirely located within paved public roadways in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The Downtown WRP would abut commercial, residential, light industrial and manufacturing, public facilities, and open space uses.

ES.4 Project Objectives

The objectives of the proposed project are to:

- Improve the reliability of the City of Los Angeles water supply through increased recycled water use
- Comply with LADWP's 2010 Urban Water Management Plan outlining the steps to sustain a reliable water supply to meet current and future demand
- Construct and operate 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 connection to recycled water for non-potable uses

ES.5 Project Description

In order to achieve the objectives of the proposed project to expand the existing recycled water pipeline network from its current termini near Taylor Yard (Rio de Los Angeles) and Los Angeles State Historic Park to serve Elysian Park and customers in central Los Angeles, the proposed project would be implemented as two separate projects, consisting of the Elysian Park WRP and the Downtown WRP. The proposed project is a standalone project and is not related to any other project(s) along the proposed alignments within Elysian Park, Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, or southeast Los Angeles.

Elysian Park WRP

The Elysian Park WRP 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.

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 community. The beginning of the pipeline would connect to the termination point of the Taylor Yard WRP and its associated proposed bikeway and pedestrian bridge 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 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 primarily use trench construction known as “cut and cover.” An approximately 3-foot wide by 4.5-foot deep trench would be excavated within the bike path and 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 I-5 via a procedure called “pipe jacking”. Launching and receiving zones 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 zones and disposed of at an appropriate regional landfill. The zones 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 to be constructed 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 pump house 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 the 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

As discussed in the preceding paragraphs, the Elysian Park WRP 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; and a 2 MG recycled water storage tank on a hilltop near Elysian Fields. Additionally, a new booster pump would be installed within an existing structure 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 non-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 be supplied by an existing potable water pipeline. 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 the approximately 24-foot diameter forebay tank would be placed. The tank would be approximately 12 feet in height. 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 pump house, 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 95-foot diameter recycled water storage tank. The tank would be a steel structure up to approximately 48 feet in height; however, final design of the tank would dictate final dimensions. The recycled water storage tank would be located in an area of the park that is not used for active recreation and currently contains an existing 500,000 gallon water tank. The existing tank would be removed as part of the project, once the new recycled water system is installed and operational.

A proposed new potable water booster pump would be installed at the southwest corner of the intersection of Stadium Way and Elysian Park Drive, and housed within an existing pump house. The booster pump would be installed to maintain the pressure in the potable water

pipeline and service to the Elysian Fields area. 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 Elysian Park WRP 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.

Downtown WRP

The Downtown WRP involves the delivery of recycled water to customers located in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. These customers have committed to using recycled water for non-potable uses. A new 16-inch recycled water pipeline would be constructed from Los Angeles State Historic Park WRP, which terminates on Spring Street at Mesnager Street. The Downtown WRP would involve installation of approximately 86,500 linear feet (approximately 16 miles) of new pipeline. Additionally, a new pressure regulator station would be installed on San Fernando Road south of Loosmore Street along an existing recycled water pipeline, upstream of the proposed Downtown WRP pipeline alignment.

Pressure Regulator Station

Construction of the pressure regulator station would involve the installation of two regulator vaults to house regulator valves and appurtenances. The pressure regulator station would be necessary to regulate the water pressure upstream of the proposed new pipeline in order to prevent excessive water pressure within the Downtown WRP system. The proposed new pressure regulator station would be installed entirely below ground. Two areas would be excavated to install this equipment, each measuring approximately 13 feet long by 11 feet wide by 13 feet deep. Excavated soil and other material would be removed and disposed of at an appropriate regional landfill.

Recycled Water Pipeline Installation

The Downtown WRP mainline segment would total approximately 24,050 linear feet, extending from Los Angeles State Historic Park to Jefferson Boulevard through downtown Los Angeles. The mainline segment would generally be constructed within the roadway south along Spring Street to Alameda Street to Temple Street, west along Temple Street to San Pedro Street, and south on San Pedro Street to Jefferson Boulevard. In order to cross U.S. Route 101 (Hollywood Freeway, US 101) on Alameda Street, it would be necessary to install the pipeline along the side of the roadway bridging of the freeway instead of trenching (approximately 150 linear feet). In addition, there is one light rail crossing on the mainline segment. The pipeline would cross the Los Angeles County Metropolitan Transportation Authority (Metro) Blue Line light rail tracks located at San Pedro Street and Washington Boulevard. The light rail crossing would require trenchless construction beneath the tracks so as not to affect rail operations.

From the mainline segment, extensions would serve specific known customers. The Twin Towers Correctional Facility segment would be installed from the mainline segment approximately 2,600 feet east from Alameda Street along Alpine Street to Main Street, continue east on Vignes Street to Bauchet Street, and northeast on Bauchet Street, where it would terminate at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility.

The LADWP segment would be constructed from the mainline segment approximately 6,500 feet west from Judge John Aiso Street along Temple Street to Hope Street, south on Hope Street to 1st Street, west on 1st Street to Dewap Road, and north on Dewap Road to Temple Street, where it would terminate at the John Ferraro Building (LADWP Headquarters). This segment includes two extensions; the first would be installed north from Temple Street along Hill Street and terminate at the Los Angeles County Central Heating and Refrigeration Plant. The second would be installed south from 1st Street to 3rd Street along Hope Street, terminating at the Veolia Energy facility. The two extensions would total approximately 1,500 feet.

The Boyle Heights Mixed Use Project segment would extend approximately 12,950 linear feet; it would be constructed from the mainline segment east from San Pedro Street along 9th Street, continuing east on Olympic Boulevard to Evergreen Avenue. The pipeline would cross railroad tracks located approximately 900 feet west of Santa Fe Avenue serving an industrial complex. Trenchless construction would be required to cross beneath the railroad tracks. In addition, the Boyle Heights Mixed Use Project segment would require a bridge crossing (Olympic Boulevard Viaduct) on Olympic Boulevard totaling 1,750 linear feet over the Los Angeles River. The pipeline would be hung below or along the side of the bridge.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 7,650 feet; it would be constructed west from San Pedro Street along Pico Boulevard to LA Live Way, and north from LA Live Way to Chick Hearn Court, where it would terminate at the Los Angeles Convention Center and Event Center. The pipeline would cross the Metro Blue Line light rail tracks located at Pico Boulevard and Flower Street. As previously mentioned, the light rail crossing would require trenchless construction so as not to affect rail operations.

The Dye House and Washington Garment segment would extend approximately 3,700 linear feet; it would be constructed from the mainline segment east from San Pedro Street along 16th Street to Central Avenue, south on Central Avenue to 18th Street, and east on 18th Street terminating at Washington Garment. This segment would include one 300-foot extension that would be installed north from 16th Street to 15th Street along Griffith Avenue, terminating at Dye House Inc.

The Exposition Park segment would extend approximately 9,750 linear feet from the mainline segment; it would be installed west on Jefferson Boulevard to Main Street, south on Main Street and continue south on Broadway Place to 37th Place, terminating at Matchmaster Dyeing & Finishing, Inc., located at Broadway Place and 37th Place; at Broadway Place and 37th Street, it would be installed west on 37th Street and continue west on Exposition Boulevard to Vermont Avenue, terminating near the USC main campus. The Metro Expo Line light rail transit system currently travels within the median of Exposition Boulevard near USC. Two at-grade Metro Expo Line stations are located in this area: the Expo Park/USC station at Exposition Boulevard and Trousdale Parkway, and the Expo/Vermont station at Exposition Boulevard and Vermont Avenue. A majority of the recycled water pipeline along Exposition Boulevard would be located south of the Metro Expo Line, on the south side of the street, so as not to interrupt rail and/or station operations. The pipeline would cross the Metro Expo Line light rail tracks at Bill Robertson Lane to reach the north side of Exposition Boulevard to connect to USC. The light rail crossing would involve trenchless construction so as not to affect rail operations. The Exposition Park segment would include two extensions. The first would extend approximately 2,700 feet; it would be installed south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard, directly east of the California Science Center, California African American Museum, Los Angeles Memorial Sports Arena, and other facilities within Exposition Park. The second

would extend approximately 2,700 feet; it would be installed south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard, directly west of the Natural History Museum of Los Angeles County, the Los Angeles Memorial Coliseum, and other facilities within Exposition Park.

The South Los Angeles Wetlands Park segment would extend approximately 9,500 feet. From the mainline segment, it would be installed south from Jefferson Boulevard along Avalon Boulevard to 54th Street and west to San Pedro Street, terminating at the South Los Angeles Wetlands Park. Two extensions would originate from this segment. The first would extend 1,300 feet and it would be installed west to San Pedro Street along 42nd Place and terminate at the Gilbert Lindsay Community Center Park. The second would extend 1,300 feet and it would be installed west to San Pedro Street along 51st Street and terminate at South Park.

During installation of the recycled water pipeline, an approximately 2.5-foot wide by 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 the imported slurry and the roadway 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. In general, approximately 90 linear feet of pipeline would be installed each day. 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.

Rail crossings would require tunneling instead of trenching. As described above, launching and receiving zones would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill. The launching and receiving zones would be backfilled with the imported slurry and the area returned to its original condition.

The Downtown WRP would not include any new above-ground structures such as tanks or pumping stations.

ES.5.1 Project Construction

Construction of the Elysian Park WRP is anticipated to begin in winter 2015 and take approximately 42 months, or 3.5 years, to complete, concluding in summer 2019. However, construction of the Elysian Park WRP 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 for the Elysian Park WRP may be intermittent, not occurring continuously over the estimated construction period. Installation of the pipeline within the Los Angeles River Bike Path is estimated to take approximately 60 days to complete. Construction of the Downtown WRP is anticipated to begin following the completion of the Elysian Park WRP pipeline installation. Construction activities for the Downtown WRP would begin in approximately winter 2019 and would take approximately 30 months, or 2.5 years, to complete, concluding in summer 2021.

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 of the Elysian Park WRP 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. Similarly, the construction of the Downtown WRP would be coordinated with the Los Angeles Memorial Coliseum, Los Angeles Memorial Sports Arena, and LADOT to minimize traffic disturbances on game/event days.

An appropriate combination of monitoring and resource impact avoidance would be employed during all phases of the proposed project, including implementation of the following 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:
    - Water shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes.
    - The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road:
        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.
    - 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).
    - Construction activity on exposed or unpaved dirt surfaces shall be suspended when wind speed exceeds 25 miles per hour (mph).
    - Ground cover in disturbed areas shall be replaced in a timely fashion when work is completed in the area.
    - A community liaison shall be identified concerning on-site construction activity including resolution of issues related to PM_{10} (particulate matter 10 microns in diameter or less) generation.
    - Non-toxic soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).
    - Traffic speeds on all unpaved roads shall be limited to 15 mph or less.
    - Streets shall be swept at the end of the day if visible soil is carried onto adjacent public paved roads. If feasible, water sweepers with reclaimed water shall be used.
- 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 may include, but would 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 may include 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.

- The proposed project would comply with the Regional Water Quality Control Board's National Pollution Discharge Elimination System.
- The pipeline alignment would not be located within 15 feet of a residential or institutional building, or within 12 feet of a commercial building to minimize vibration induced building damage, where feasible
- Residences and businesses near the pipeline alignment would be notified prior to the start of construction (e.g., via flyers) of lane closures and parking restrictions in their vicinity. The notices would 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.
- LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, and the City of Los Angeles Community Development Department.

ES.6 Issues Raised by the Public and Agencies

A public agency scoping meeting was held at LADWP Headquarters in downtown Los Angeles on May 22, 2014. The purpose of the meeting was to seek input from public agencies and the general public regarding the environmental issues and concerns that may potentially result from the proposed project. No public agency representatives or members of the general public attended the meeting; therefore, no public comments or questions were received at the scoping meeting.

Six comment letters were received in response to the Notice of Preparation and Initial Study for this project. Copies of the comment letters are provided in Appendix A. The primary issues identified by the public and agencies included the following:

- The project site has the potential to contain Native American resources.
- The Native American Heritage Commission should be contacted for a list of appropriate Native American contacts for consultation.
- Impacts to historical and archaeological resources in the project area should be identified in the EIR and mitigated.

- The EIR should include an appropriate air quality analysis and mitigate any identified impacts.
- The EIR should include a thorough analysis of all impacts to transit, pedestrian, and bicycle facilities.
- The EIR should evaluate air quality impacts on sensitive receptors in the project area.
- The EIR should evaluate noise and traffic impacts on schools in the project area.
- The EIR should evaluate geological impacts.
- The EIR should evaluate consistency with applicable policies of the City of Los Angeles General Plan.

Additionally, previous public and agency comments received on the Draft MND and the Recirculated Draft MND are included in Appendix A of this EIR. The previous comments that pertained to environmental issues are addressed as applicable in this EIR. The primary issues identified previously by the public and agencies included the following:

- What impacts will the proposed project have on surrounding area projects including Metro's Regional Connector Project, the Broadway Streetscape Master Plan, and the Los Angeles Streetcar Project?
- Have alternative alignments been considered and evaluated?
- Impacts to any oil wells along the proposed alignment should be evaluated.
- Impacts to the State Highway system should be evaluated.
- Components of the Elysian Park WRP within Elysian Park should be consistent with the Elysian Park Master Plan.
- Dodger game day traffic should be analyzed.
- Impacts to emergency response times should be evaluated.
- Impacts to migratory birds and wildlife should be evaluated and mitigated.

ES.7 Summary of Environmental Impacts

An analysis of environmental impacts caused by the proposed project has been conducted and is contained in this EIR. Eight issue areas are analyzed in detail and presented in Chapter 3.0. Table ES-1 provides a summary of the potentially significant environmental impacts that would result during construction and operation of the proposed project, mitigation measures that would lessen potential environmental impacts, and the level of significance of the environmental impacts that would remain after implementation of the proposed mitigation. The EIR identifies potentially significant impacts requiring mitigation for aesthetics (Chapter 3.1) biological resources (Chapter 3.3), cultural resources (Chapter 3.4), construction noise (Chapter 3.7), and construction traffic (Chapter 3.8). The EIR identified less than significant impacts for air quality (Chapter 3.2), greenhouse gas emissions (Chapter 3.5), and land use and planning (Chapter 3.6).

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
AESTHETICS			
VIS-1: The proposed project would not have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
VIS-2: The proposed new tank and the associated vegetation removal would diminish the visual character of surrounding areas of Elysian Park.	Significant	**VIS-A** At the completion of construction of the Elysian Park WRP, LADWP, in coordination with LARAP shall paint the proposed new recycled water tank in a neutral color chosen to blend in with the surrounding park setting. The final design shall be reviewed by a qualified architectural historian. Interested parties, including LARAP, shall be contacted to solicit input on the design of the new recycled water tank. **VIS-B** At the completion of construction of the Elysian Park WRP, 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. Interested parties, including LARAP, shall be contacted to solicit input on the design of the new recycled water tank.	Less than significant
AIR QUALITY			
AIR-1: The proposed project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.	Less than significant	No mitigation measures are required.	Less than significant
AIR-2: The proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is classified as nonattainment under the National Ambient Air Quality Standards or California Ambient Air Quality Standards. The proposed project would not exceed any of the SCAQMD	Less than significant	No mitigation measures are required.	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
project-level significance thresholds for air quality.			
AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. Off-road equipment used during construction of the proposed project would generate diesel particulate matter. However, these emissions would occur only during construction. Sensitive receptors would not be exposed to concentrations exceeding the applicable thresholds.	Less than significant	No mitigation measures are required.	Less than significant
BIOLOGICAL RESOURCES			
BIO-1: The project sites for the Elysian Park WRP, Downtown WRP, and adjacent areas contain bridges, mature trees, other vegetation, and structures that are suitable for use by migratory birds. In accordance with the requirements of the Migratory Bird Treaty Act, 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), significant impacts to these bird species could occur.	Significant	**BIO-A** 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: *Elysian Park WRP* - Nesting bird 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 shall remove all flagging and allow construction activities to	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		proceed. *Downtown WRP* - If trimming of vegetation is necessary, a nesting bird survey shall be conducted no earlier than 3 days prior to the commencement of such activities. Additionally, no earlier than 3 days prior to the placement of the recycled water pipeline along or below Olympic Boulevard Bridge, a nesting bird survey of the bridge shall be conducted. 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 shall remove all flagging and allow construction activities to proceed.	
BIO-2: The proposed project would interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites if vegetation clearance occurs during the nesting/breeding bird season.	Significant	See mitigation measure BIO-A above.	Less than significant
BIO-3: The proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than Significant	No mitigation measures are required.	Less than Significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
CULTURAL RESOURCES			
CR-1: The proposed project could cause a substantial adverse change in the significance of a historical resource.	Significant	**CR-A** 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, as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP. 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 area. Lawn (grass) to be removed during trenching shall be replaced in the post-construction phase, to the extent feasible. **CR-B** 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's Standards for the Treatment of Historic Properties*, as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP. The forebay tank and station housing shall 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, including LARAP, shall be contacted to solicit input on the design of the forebay tank, and non-potable and recycled water pump stations. **CR-C** To preserve the historic character and integrity of the Olympic Boulevard Bridge, the placement of the pipeline should follow the *Secretary of*	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures		Level of Significance after Mitigation
			Interior's Standards for the Treatment of Historic Properties (36CFR68.3), specifically, the guidelines and standards relating to rehabilitation of historic properties and as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP. To meet these standards, it is recommended that the proposed pipeline be carried under the bridge where several pipes already exist, except for the areas from the approaches to each abutment, where the proposed pipeline shall be placed on the side of the bridge. When the pipeline reaches the area of the abutment, in order to avoid visual impacts to the spandrel, the proposed pipeline shall enter the superstructure of the bridge as the other pipes already do. The proposed pipeline shall be placed in such a way as to avoid intruding on the character-defining features or otherwise causing a visual disruption to the Beaux Arts character of the bridge. This shall include painting the proposed pipeline such that it does not impair the integrity of the bridge appearance. All clamps used for support shall be made so they are removable without any permanent damage. Further, the final project design as it relates to the Olympic Boulevard Bridge shall be reviewed prior to implementation by a specialist who meets the Secretary of the Interior standards for architectural historian or historic architect.	
CR-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource.	Significant	**CR-D**	A qualified archaeological monitor shall be present on-site during ground-disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		receiving pits for microtunneling in areas of archaeological sensitivity as specified in the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* Confidential Appendix). The on-site archaeological monitor shall work under the direction of a qualified archaeological Principal Investigator. The on-site 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 project area, 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. 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, LADWP shall be notified immediately and work in the vicinity of the discovery shall be halted until appropriate treatment of the resource, as specified in the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) is determined by the qualified archaeological Principal Investigator in accordance with the provisions of CEQA Guidelines Section 15064.5 and Section 106 of the National Historic Preservation Act. **CR-E** To avoid impacts to the *zanja* system, the measures specified in the *Discovery and*	

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		Treatment Plan for the Elysian Park–Downtown WRP (Confidential Appendix) shall be implemented. This treatment plan compiles existing information, discusses the different possible manifestations of the *zanja* (brick lined, earthen ditch, etc.), and provides research themes and treatment approaches to avoid or mitigate significant impacts. The treatment plan also includes a discussion of protocols to follow for unanticipated discoveries.	
CR-3: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Significant	**CR-F** A qualified paleontological monitor shall be present on-site during ground-disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and receiving pits for microtunneling in areas of paleontological sensitivity, as determined in the Cultural Resources Assessment. The on-site paleontological monitor shall work under the supervision of a qualified paleontological supervisor. In the event paleontological resources are encountered during construction activities, the on-site paleontological monitor shall have the authority to redirect all work within the vicinity of the find until the discovery can be evaluated by a qualified paleontological resources specialist in accordance with the provisions of CEQA Guidelines Section 15064.5. Any fossils, should they be recovered, shall be prepared, identified and catalogued before curation in an accredited repository designated by the lead agency.	Less than significant
CR-4: The proposed project could potentially disturb human remains, including those interred outside of formal cemeteries. However,	Less than Significant	No mitigation measures are required.	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
adherence to applicable guidelines and procedures would ensure that impacts would be less than significant.			
GREENHOUSE GAS EMISSIONS			
GHG-1: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation measures are required.	Less than significant
GHG-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
LAND USE AND PLANNING			
LUP-1: The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant
NOISE			
NOISE-1: Construction of the proposed project would expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Significant	**NOISE-A** For construction activities lasting more than three months in one location, temporary barriers (e.g., noise blankets) shall be utilized around equipment located within 500 feet of a sensitive receptor. **NOISE-B** LADWP shall use construction equipment that is properly maintained and equipped with mufflers. **NOISE-C** LADWP shall use rubber-tired equipment rather than tracked equipment. **NOISE-D** LADWP shall turn off equipment when not in use for an excess of five minutes except for	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		equipment that requires idling to maintain performance. **NOISE-E** LADWP shall appoint a public liaison for project construction that will be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison shall determine the cause of the concern (e.g., starting too early, bad muffler) and implement measures to address the concern. **NOISE-F** LADWP shall notify the public in advance of the location and dates of construction hours and activities. **NOISE-G** LADWP shall limit truck routes to major arterial roads within non-residential areas. **NOISE-H** Construction activities shall be prohibited between the hours of 9:00 p.m. and 7:00 a.m. when located within 500 feet of occupied sleeping quarters or other land uses sensitive to increased nighttime noise levels. **NOISE-I** 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). **NOISE-J** LADWP shall coordinate with the site administrator for Dorris Place Elementary School to discuss construction activities that generate high noise levels along Dorris Place. Coordination between the site administrator and LADWP shall continue on an as-needed basis while construction is occurring on Dorris Place to mitigate	

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures		Level of Significance after Mitigation
			potential disruption of classroom activities.	
NOISE-2: Construction of the proposed project would expose persons to or generate excessive groundborne vibration levels.	Significant	**NOISE-K**	Prior to construction, LADWP in coordination with a historic resources expert and/or a licensed structural engineer shall identify non-engineered timber and masonry residences within 15 feet of construction equipment. If these structures are identified within this distance, a structural engineer licensed in California shall survey the existing foundations. The structural engineer shall submit a pre-construction survey letter to LADWP establishing baseline conditions at the buildings. At the conclusion of vibration causing activities, the structural engineer shall issue a follow-up letter describing the post-construction condition of the buildings. The letter shall include recommendations for repair, as may be necessary.	Less than significant
NOISE-3: Construction of the proposed project would result in a temporary increase in ambient noise levels in the project vicinity above levels existing without the project.	Significant	See mitigation measures NOISE-A through NOISE-J above.		Less than significant
TRANSPORTATION/TRAFFIC				
TRANS-1: The proposed project would conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system on study street segments during construction.	Significant	**TRANS-A**	LADWP, prior to the start of construction, shall coordinate with LADOT to prepare a Traffic Management Plan (TMP). The TMP shall be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The TMP shall consist of traffic control plans showing striping changes, and a traffic signal plan for any signalized intersections indicating modifications to existing traffic signals and associated controllers to be adjusted during	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		the construction phase. Methods to inform the public regarding project construction, and roadway, bike path, and pedestrian facility detours and closures, as well as temporary transit stop relocations, shall be implemented as part of the TMP. Additional measures to be incorporated into the TMP to improve traffic flow 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	

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		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 project 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. **TRANS-B** LADWP shall consult with Caltrans to obtain permits for the transport of oversized loads, and to obtain encroachment permits for any work along state facilities.	
TRANS-2: The proposed project would not conflict with an applicable congestion management program.	No impact	No mitigation measures are required.	No impact
TRANS-3: The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; however, construction of	Significant	See mitigation measure TRANS-A above.	Less than significant

Table ES-1 Summary of Significant Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
the proposed project could decrease the performance or safety of such facilities during the construction period.			

ES.8 Alternatives to the Proposed Project

The CEQA Guidelines Section 15126.6 requires consideration and discussion of alternatives to the proposed project in an EIR. Several alternatives, including alternative alignments, were considered but rejected from consideration in this EIR, as discussed in Chapter 5. The five alternatives summarized below are reviewed in detail in Chapter 5.

ES.8.1 No Project Alternative

Under the No Project Alternative, the existing recycled water pipeline network would not be extended to Elysian Park and downtown Los Angeles. Because this improvement would not be implemented, the use of recycled water would not be maximized to replace potable sources for irrigation and industrial uses. Under the No Project Alternative, future environmental conditions would be unchanged from those that currently exist. Construction impacts associated with biological resources, cultural resources, noise, and transportation and traffic would be avoided with the No Project Alternative because no construction activities would occur on the project site under this alternative. No potential permanent changes to aesthetics and cultural resources would occur because the project site would not be altered.

ES.8.2 Elysian Park WRP – HDD Alternative

The Elysian Park WRP – Horizontal Directional Drilling (HDD) Alternative, would be similar to the Elysian Park WRP described under the proposed project, and would contain many 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 proposed project. , 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 the 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 the proposed project, a tunneling technique known as horizontal directional drilling would be required. Horizontal directional drilling is a trenchless method of installing subsurface pipes. The Elysian Park WRP – HDD Alternative would result in reduced impacts during construction as compared with those of the proposed project in the areas of cultural resources and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, land use and planning, and noise. The Elysian Park WRP – HDD Alternative would result in greater impacts during construction in the areas of air quality and GHG emissions.

ES.8.3 Downtown WRP – Main Street Alignment Alternative

The Downtown WRP – Main Street Alignment Alternative would involve constructing and operating approximately 84,550 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would be shorter and involve construction of approximately 1,950 linear feet of recycled water pipeline less than the proposed project. This alternative would be similar to the proposed Downtown WRP; however, the mainline segment would generally follow Main Street. The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts during construction compared with those of the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative

would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. However, the implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult.

ES.8.4 Downtown WRP – Los Angeles Street Alignment Alternative

The Downtown WRP – Los Angeles Street Alignment Alternative would involve constructing and operating approximately 85,550 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would be shorter and involve construction of approximately 950 linear feet of recycled water pipeline less than the proposed project. This alternative would be similar to the proposed Downtown WRP; however, the mainline segment would generally follow Los Angeles Street. The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts during construction compared with those of the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. However, the implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult.

ES.8.5 Downtown WRP – Central Avenue Alignment Alternative

The Downtown WRP – Central Avenue Alignment Alternative would involve constructing and operating approximately 85,450 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would be shorter and involve construction of approximately 1,050 linear feet of recycled water pipeline less than the proposed project. The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts during construction compared with those of the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. However, the implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult.

ES.8.6 Environmentally Superior Alternative

In accordance with Section 15126.6(e)(2) of the CEQA Guidelines, an EIR shall identify an environmentally superior alternative among the alternatives, including the proposed project. The No Project Alternative would not meet any of the project objectives because this alternative would not increase recycled water use. The Elysian Park WRP – HDD Alternative would result in some reduced environmental impacts, however, the tunneling construction technique may not be cost-effective and repairs to the tunnel would be difficult. Although the Elysian Park WRP – HDD Alternative would meet the project objectives, this alternative would result in greater environmental impacts. The three alignment alternatives considered for the Downtown WRP (Main Street, Los Angeles Street, and Central Avenue) would reduce impacts in the areas of air quality, GHG emissions, noise, and transportation and traffic. However, additional substructure conflicts would occur with the three alignment alternatives. As a result, although the three alignment alternatives would be feasible to construct, the construction process may be difficult. As such, the three alignment alternatives would not meet the following project objectives as well

as the proposed project: 1) construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area, and 2) provide recycled water to some of the City's largest water customers, and other industrial and irrigation customers in the central Los Angeles area. These alternatives would not meet all of the project objectives. As such, the proposed project is determined to be the environmentally superior alternative.

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CHAPTER 1
INTRODUCTION

This Environmental Impact Report (EIR) has been prepared by the Los Angeles Department of Water and Power (LADWP) to evaluate potential environmental effects that would result from development of the proposed Elysian Park-Downtown Water Recycling Projects (WRPs). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code Section 2100 et. seq., as amended) and its implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq., 2014). LADWP is identified as the lead agency for the proposed project under CEQA.

1.1 Summary of the Proposed Project

The 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 and downtown Los Angeles. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Planning Documents. The proposed project consists of two separate projects: The Elysian Park WRP and the Downtown WRP. The term “proposed project” is used hereinafter to refer to the Elysian Park WRP and Downtown WRP collectively.

The Elysian Park WRP 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 new 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 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 alignment for the recycled water pipeline would roughly extend on 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 would extend from Grace E. Simons Lodge to Elysian Fields in order to supply the bathrooms and drinking fountains at Elysian Fields.

The Downtown WRP involves constructing and operating approximately 16 miles of new 16-inch recycled water pipeline from the proposed terminus at Mesnager Street near Los Angeles State Historic Park to customers located in, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The mainline would roughly extend on San Pedro Street south to Jefferson Boulevard to serve customers in downtown Los Angeles. Several segments would extend from the main line segment to reach customers in Boyle Heights, Exposition Park, and the South Los Angeles Wetlands Park. Additionally, a proposed new pressure regulator station would be installed and operated on San Fernando Road south of Loosmore Street, within the community of Cypress Park.

1.2 CEQA Environmental Process

CEQA requires preparation of an EIR when there is substantial evidence supporting a fair argument that a project may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective informational document that fully discloses the potential environmental effects of the proposed project. The EIR process is intended to facilitate the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project, and to identify potentially feasible mitigation measures and alternatives that would substantially reduce or avoid the proposed project's significant effects. In addition, CEQA specifically requires that an EIR identify those adverse impacts determined to be significant after mitigation.

In accordance with the CEQA Guidelines, an Initial Study was prepared and a Notice of Preparation (NOP) was distributed on May 9, 2014, to public agencies and organizations, and private organizations and individuals with a possible interest in the proposed project, as well as those agencies, organizations, and individuals that submitted comments on the previous environmental documents prepared for the proposed project. The purpose of the NOP was to provide notification that the lead agency (LADWP) planned to prepare an EIR and to solicit input on the scope and content of the EIR. Over 70 copies of the Initial Study and 700 copies of the NOP were distributed to agencies, organizations, and interested individuals. In response to the NOP, 6 written comment letters were received. These letters and the NOP/Initial Study are included as Appendix A of this EIR. Information regarding the previous environmental documents prepared for the proposed project is included in the discussion of the project's history in the Executive Summary, as well as Section 2.2 of Chapter 2, Project Description. Comment letters received on the previously prepared environmental documents are also included in Appendix A.

A public agency scoping meeting was held at LADWP Headquarters in downtown Los Angeles on May 22, 2014. Information regarding the scoping meeting was included in the NOP, which was widely distributed, as described above. The purpose of the meeting was to seek input from public agencies and the general public regarding the environmental issues and concerns that may potentially result from the proposed project. No public agency representatives or members of the general public attended the meeting; therefore, no public comments or questions were received at the scoping meeting.

This Draft EIR focuses on the environmental impacts identified as potentially significant during the scoping process, including the comments received in response to the NOP/Initial Study and the environmental documents previously prepared for the proposed project. The issue areas analyzed in detail in this EIR include aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, land use and planning, noise, and transportation and traffic. Other issue areas with effects determined to be less than significant are addressed in Section 4.2 of Chapter 4, Impact Overview, of this EIR.

This Draft EIR is being circulated for 45 days for public review and comment. The timeframe of the public review period is identified in the Notice of Availability attached to this Draft EIR. During this period, comments from the general public, organizations, and agencies regarding environmental issues analyzed in the Draft EIR and the accuracy and completeness of the Draft EIR may be submitted to the lead agency at the following address:

Ms. Irene Paul
Department of Water and Power
City of Los Angeles
111 North Hope Street, Room 1044
Los Angeles, CA 90012
Email: Irene.Paul@ladwp.com

General questions about this EIR and the EIR process may also be submitted to the email address above. LADWP will prepare written responses to comments pertaining to environmental issues raised in the Draft EIR if they are submitted in writing and postmarked by the last day of the public review period identified in the Notice of Availability.

Prior to approval of the proposed project or an alternative to the proposed project, the City of Los Angeles Board of Water and Power Commissioners, as the decision making entity for the project, is required to certify that this EIR has been completed in accordance with CEQA, that the EIR reflects the independent judgment of the lead agency, and that the information in this EIR has been considered during the review of the project. CEQA also requires the Board of Water and Power Commissioners to adopt "findings" with respect to each significant environmental effect identified in the EIR (Cal. Pub. Res. Code Section 21081; Cal. Code Regs., Title 14, Section 15091). For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- Alterations have been made to avoid or substantially lessen significant impacts identified in the Final EIR.

- The responsibility to carry out such changes or alterations is under the jurisdiction of another agency.

- Specific economic, legal, social, technological, or other considerations make infeasible mitigation measures or project alternatives identified in the Final EIR.

If the Los Angeles Board of Water and Power Commissioners concludes that the proposed project or an alternative to the proposed project would result in significant effects that have been identified in this EIR but cannot be substantially lessened or avoided by feasible mitigation measures and/or alternatives, it must adopt a "statement of overriding considerations" in order to approve the project (Cal Pub. Res. Code Section 21081 [b]). Such statements are intended under CEQA to provide a means by which the lead agency balances, in writing, the benefits of the proposed project with the significant and unavoidable environmental impacts. Where the lead agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the lead agency may find such impacts "acceptable" and approve the proposed project.

In addition, the Los Angeles Board of Water and Power Commissioners must also adopt a Mitigation Monitoring and Reporting Program describing the changes that were incorporated into the project or made a condition of approval in order to mitigate or avoid significant effects on the environment (Cal. Pub. Res. Code Section 21081.6). The Mitigation Monitoring and Reporting Program is adopted at the time of project approval and is designed to ensure compliance during project implementation. Upon approval of the proposed project or an alternative to the proposed project, the lead agency will be responsible for implementation of the Mitigation Monitoring and Reporting Program.

1.3 Organization of the EIR

This EIR is organized as follows:

The **Executive Summary** of this EIR provides an overview of the information provided in detail in subsequent chapters. It consists of an introduction; a brief description of the proposed project and alternatives; a discussion of issues raised by the public and agencies relative to the project construction and operations; and a table that summarizes the potential environmental impacts in each issue area, the significance determination for those impacts, mitigation measures, and significance after mitigation.

Chapter 1 (Introduction) provides a summary of the proposed project, an overview of the CEQA environmental review process, and a description of the organization of the EIR.

Chapter 2 (Project Description) provides a description of the proposed project. Project objectives are identified and information on the proposed project characteristics and construction and operational scenarios is provided. This chapter also includes a description of the intended uses of the EIR and public agency actions related to the proposed project.

Chapter 3 (Environmental Setting, Impacts, and Mitigation) describes the potential environmental effects of implementing the proposed project. The discussion in Chapter 3 is organized into eight environmental issue areas, as follows:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation and Traffic

For each environmental issue, the analysis and discussion are organized into five subsections as described below:

Environmental Setting – This subsection describes, from a local and regional perspective, the physical environmental conditions in the vicinity of the proposed project and at the project site at the time of publication of the NOP. The environmental setting establishes the baseline conditions, which were used by LADWP to determine whether specific project-related impacts would be significant.

Thresholds of Significance – This subsection identifies a set of thresholds by which the level of impact is determined.

Environmental Impacts – This subsection provides information on the environmental effects of the proposed project and whether the impacts of the proposed project would meet or exceed the established significance criteria.

Mitigation Measures – This subsection identifies feasible mitigation measures that would avoid or substantially reduce significant adverse project-related impacts.

Significance after Mitigation – This subsection indicates whether project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the EIR. This subsection also identifies any residual significant and

unavoidable adverse effects of the proposed project that would result even after the mitigation measures have been implemented.

Chapter 4 (Impact Overview) presents the other mandatory CEQA sections, including the following:

Unavoidable Significant Adverse Impacts – This subsection identifies and summarizes the unavoidable significant impacts described in greater detail in Chapter 3.

Effects Not Found to Be Significant – This subsection identifies and summarizes the issue areas that were determined to have no adverse environmental effect or a less than significant environmental effect given the established significance criteria.

Cumulative Impacts – This subsection addresses the potentially significant cumulative impacts that may result from the proposed project when taking into account related or cumulative impacts resulting from other past, present, and reasonably foreseeable future projects.

Irreversible Environmental Changes – This subsection addresses the extent to which the proposed project would result in a significant commitment of nonrenewable resources.

Growth-Inducing Impacts – This subsection describes the potential of the proposed project to induce economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Chapter 5 (Alternatives) describes and evaluates the comparative merits of a reasonable range of alternatives to the proposed project that would feasibly attain most of the basic objectives of the proposed project and avoid or substantially lessen potentially significant project-related impacts. This chapter also describes the analysis and rationale for selecting the range of alternatives discussed in the EIR and identifies the alternatives considered by LADWP that were rejected from further detailed analysis during the planning process. Chapter 5 also includes a discussion of the environmental effects of the No Project Alternative and identifies the environmentally superior alternative.

Chapter 6 (Acronyms and Abbreviations) provides an alphabetical list of all acronyms and abbreviations used in this EIR.

Chapter 7 (References) provides a bibliography of reference materials used in preparation of this EIR.

Chapter 8 (List of Preparers) identifies those persons responsible for preparation of this EIR.

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CHAPTER 2
DESCRIPTION OF THE PROPOSED PROJECT

This chapter provides a description of the Elysian Park-Downtown Water Recycling Projects evaluated in Chapter 3 of this EIR. An overview of the proposed project is provided, followed by a description of the project history, project location, project background, existing environmental setting, and project objectives, as well as a description of project characteristics, construction schedule and procedures, and a summary of approvals that would be required to implement the proposed project. Additional descriptions of the environmental setting as it relates to each of the environmental issue areas analyzed in this EIR are included in the environmental setting discussion contained within Chapter 3, Environmental Setting, Impacts, and Mitigation. This information is provided pursuant to CEQA Guidelines Section 15124.

2.1 Overview of the Project

The 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 and downtown Los Angeles. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and the Recycled Water Master Planning Documents.

The Elysian Park WRP involves the delivery of recycled water to 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 totaling approximately 10,800 linear feet. The proposed Elysian Park 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. The proposed alignment for the recycled water pipeline would roughly extend along Stadium Way and Angels Point Road. 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 the Grace E. Simons Lodge. Approximately 2,800 linear feet of 2-inch potable water service line with a booster pump housed within an existing pump house would extend from Grace E. Simons Lodge to Elysian Fields in order to supply the bathrooms and drinking fountains at Elysian Fields.

The Downtown WRP involves constructing and operating 86,500 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline from the proposed terminus at Mesnager Street near Los Angeles State Historic Park (also known as the Cornfields Park) within the Chinatown community to customers located in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The mainline would roughly extend on San Pedro Street south to Jefferson Boulevard. To reach Boyle Heights, the pipeline would roughly extend on 9th Street to Olympic Boulevard (9th Street becomes Olympic Boulevard at Gladys Avenue). To reach Exposition Park, the pipeline would roughly extend on Jefferson Boulevard to Main Street to 37th Street to Exposition Boulevard. To reach the South Los Angeles Wetlands Park in southeast Los Angeles, the pipeline would roughly extend on Avalon Boulevard from Jefferson Boulevard south to 54th Street. Additionally, a proposed new pressure regulator station would

be installed and operated on San Fernando Road, south of Loosmore Street, within the community of Cypress Park.

2.2 Project History

A Draft Mitigated Negative Declaration (MND) for the Elysian Park-Downtown Water Recycling Projects was circulated for public review and comment by LADWP starting on September 18, 2012, initiating a 30-day public review period pursuant to CEQA and its implementing guidelines. LADWP accepted comments on the document until October 31, 2012. The Draft MND was distributed to relevant public agencies, as well as adjacent property owners and occupants. Public and agency comments received on the Draft MND are included in Appendix A of this EIR.

Subsequent to the close of the public review period for the Draft MND, some design modifications were made to the Elysian Park WRP, formerly referred to as Phase I of the proposed project. In 2013, pursuant to CEQA Guidelines Section 15073.5, LADWP prepared a Recirculated Draft MND to provide an explanation of the revised project description and to disclose environmental issue areas where modifications to the Elysian Park WRP necessitated revisions to the previous Draft MND analysis. The Recirculated Draft MND was circulated for comment starting on August 16, 2013, initiating a 30-day public review period pursuant to CEQA and its implementing guidelines, with the public review period closing on September 16, 2013. The Recirculated Draft MND was distributed to relevant public agencies, as well as adjacent property owners and occupants. Public and agency comments received on the Recirculated Draft MND are included in Appendix A of this EIR.

Following the close of the public review period for the Recirculated Draft MND, LADWP determined that physical and design constraints along a portion of the proposed alignment for the Downtown WRP, previously referred to as Phase II of the proposed project, rendered the alignment difficult to implement and that a new preferred alignment should be crafted and analyzed. Accordingly, LADWP has prepared this EIR to analyze potential environmental impacts resulting from implementation of the Elysian Park WRP and the new preferred alignment proposed for the Downtown WRP.

2.3 Project Location

Elysian Park WRP

The Elysian Park WRP would primarily be located 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 of Los Angeles (City). The park is owned by the City and maintained by the City of 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 Elysian Park WRP would connect to the termination point of the Taylor Yard WRP and its associated proposed bikeway and pedestrian bridge 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 Elysian Park WRP pipeline within the Elysian

Valley neighborhood would abut residential and public facilities uses. The pipeline would extend approximately 700 feet southeast along the Los Angeles River 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 beneath I-5 before extending into Elysian Park.

Within Elysian Park, the recycled water pipeline would then connect to a new recycled water storage tank located on the hilltop near Elysian Fields within Elysian Park. The proposed alignment for the recycled water pipeline would roughly extend along Stadium Way and Angels Point Road. In addition, approximately 1,000 linear feet of potable water pipeline would extend from Park Drive to the Grace E. Simons Lodge. Approximately 2,800 linear feet of potable water service line with a booster pump housed within an existing pump house would extend from Grace E. Simons Lodge to Elysian Fields.

Downtown WRP

The Downtown WRP would be located within public streets in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The Downtown WRP segments would abut commercial, residential, and public facilities uses. A pressure regulator station would be constructed and operated on San Fernando Road south of Loosmore Street along an existing recycled water pipeline, upstream of the proposed Downtown WRP pipeline alignment. The proposed alignment would begin at the termination point of the Los Angeles State Historic Park WRP, which is located on Spring Street at Mesnager Street, approximately 0.5 miles southeast of Dodger Stadium. The mainline segment of the Downtown WRP would extend approximately 2,900 feet south from the termination point of the Los Angeles State Historic Park WRP on Spring Street to College Street, continue from College Street approximately 4,600 feet south on Alameda Street to Temple Street, approximately 700 feet west on Temple Street to Judge John Aiso Street, approximately 850 feet south on Judge John Aiso Street to 1st Street where Judge John Aiso Street becomes San Pedro Street, and approximately 15,000 feet south on San Pedro Street to Jefferson Boulevard. From Jefferson Boulevard, the mainline segment would split and extend west to Exposition Park as the Exposition Park segment and south along Avalon Boulevard as the South Los Angeles Wetlands Park segment. Various other segments including the Twin Towers Correctional Facilities segment, LADWP segment, Boyle Heights Mixed Use Project segment, Los Angeles Convention Center and Event Center segment, and the Dye House and Washington Garment segment would originate from the mainline segment to serve specific known customers. All proposed segments and other extensions are described below.

The Twin Towers Correctional Facilities segment would extend approximately 350 feet east of the mainline segment on Alpine Street from Alameda Street to Main Street, continue approximately 1,300 feet east on Vignes Street from Main Street to Bauchet Street, and approximately 950 feet northeast on Bauchet Street terminating at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility, located at 450 Bauchet Street.

The LADWP segment would extend from the mainline segment approximately 3,350 feet west on Temple Street from Judge John Aiso Street to Hope Street, approximately 1,200 feet south on Hope Street from Temple Street to 1st Street, approximately 700 feet west on 1st Street to Dewap Road, and approximately 1,250 feet north on Dewap Road to Temple Street, terminating at the John Ferraro Building (LADWP Headquarters), located at 111 North Hope Street. Two extensions would connect to this main segment. The first would extend approximately 300 feet

north on Hill Street from Temple Street and terminate at the Los Angeles County Central Heating and Refrigeration Plant, located at 301 North Broadway. The second would extend approximately 1,200 feet south on Hope Street from 1st Street to 3rd Street, terminating at the Veolia Energy facility.

The Boyle Heights Mixed Use Project segment would extend from the mainline segment approximately 1,450 feet east on 9th Street from San Pedro Street to Gladys Avenue where 9th Street becomes Olympic Boulevard, and approximately 11,500 feet east on Olympic Boulevard from Gladys Avenue to Evergreen Avenue, including a 1,750-foot bridge crossing on Olympic Boulevard over the Los Angeles River (Olympic Boulevard Viaduct). This segment would terminate at a 68.8-acre site proposed to be redeveloped as a mixed-use community located approximately 2 miles southeast of downtown Los Angeles. The Boyle Heights Mixed Use Project site is generally bounded by East 8th Street on the north, Grande Vista Avenue on the east, Olympic Boulevard on the south, and South Soto Street on the west.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 6,500 feet west on Pico Boulevard from San Pedro Street to LA Live Way, and approximately 1,150 feet north on LA Live Way to Chick Hearn Court, terminating at the Los Angeles Convention Center and Event Center, located at 1201 South Figueroa Street.

The Dye House and Washington Garment segment would extend from the mainline segment approximately 2,600 feet east on 16th Street from San Pedro Street to Central Avenue, approximately 600 feet south on Central Avenue to 18th Street, and approximately 500 feet east on 18th Street and terminate at Washington Garment, located at 1332 East 18th Street just south of Interstate 10 (I-10). This segment would include one extension approximately 300 feet north on Griffith Avenue from 16th Street to 15th Street, terminating at Dye House Inc., located at 1510 Griffith Avenue.

The Exposition Park segment would extend from the mainline segment approximately 2,600 feet west on Jefferson Boulevard to Main Street, approximately 900 feet south on Main Street to Broadway Place, approximately 800 feet south on Broadway Place from Main Street to 37th Place to reach Matchmaster Dyeing & Finishing, Inc., located at Broadway Place and 37th Place. This segment would then extend approximately 2,600 feet west on 37th Street from Broadway Place to Figueroa Street, and approximately 2,850 feet west on Exposition Boulevard from Figueroa Street to Vermont Avenue, terminating near the University of Southern California (USC) main campus. The Exposition Park segment would include two extensions; the first would extend approximately 2,700 feet south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard, directly east of the California Science Center, California African American Museum, Los Angeles Memorial Sports Arena, and other facilities within Exposition Park. The second would extend approximately 2,700 feet south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard, directly west of the Natural History Museum of Los Angeles County, the Los Angeles Memorial Coliseum, and other facilities within Exposition Park.

The South Los Angeles Wetlands Park segment would extend from the mainline segment approximately 8,000 feet south on Avalon Boulevard from Jefferson Boulevard to 54th Street, and approximately 1,500 feet west on 54th Street from Avalon Boulevard to San Pedro Street and terminate at the South Los Angeles Wetlands Park, which is bounded by 54th Street on the north, Avalon Boulevard on the east, 55th Street on the south, and San Pedro Street on the west. This segment would also include two extensions. The first would extend approximately 1,300 feet west on 42nd Place from Avalon Boulevard to San Pedro Street terminating at Gilbert

Lindsay Community Center Park, located at 425 East 42nd Place. The second would extend approximately 1,300 feet west on 51st Street from Avalon Boulevard to San Pedro Street terminating at South Park, which is bounded by Park Front Walk on the north, Avalon Boulevard on the east, 51st Street on the south, and San Pedro Street on the west.

Figure 2-1 shows the regional location of the proposed project, while Figures 2-2 and 2-3 show the proposed alignments for Elysian Park WRP and the Downtown WRP, respectively. Additionally, Figure 2-3 identifies the names and locations of the customers to be served by the Downtown WRP.

2.4 Project Background

The City relies on four sources to meet its water needs: (1) snow-melt runoff from the Eastern Sierra conveyed by the Los Angeles Aqueduct (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 (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 drought, 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. Los Angeles Aqueduct deliveries from the Eastern Sierra vary with snowpack conditions. In addition, over the last two decades, the City's water deliveries from the Los Angeles Aqueduct 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, 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 Aqueduct Environmental Impact Report; and rewatering of the Lower Owens River, where losses are approximately 17,000 AFY.

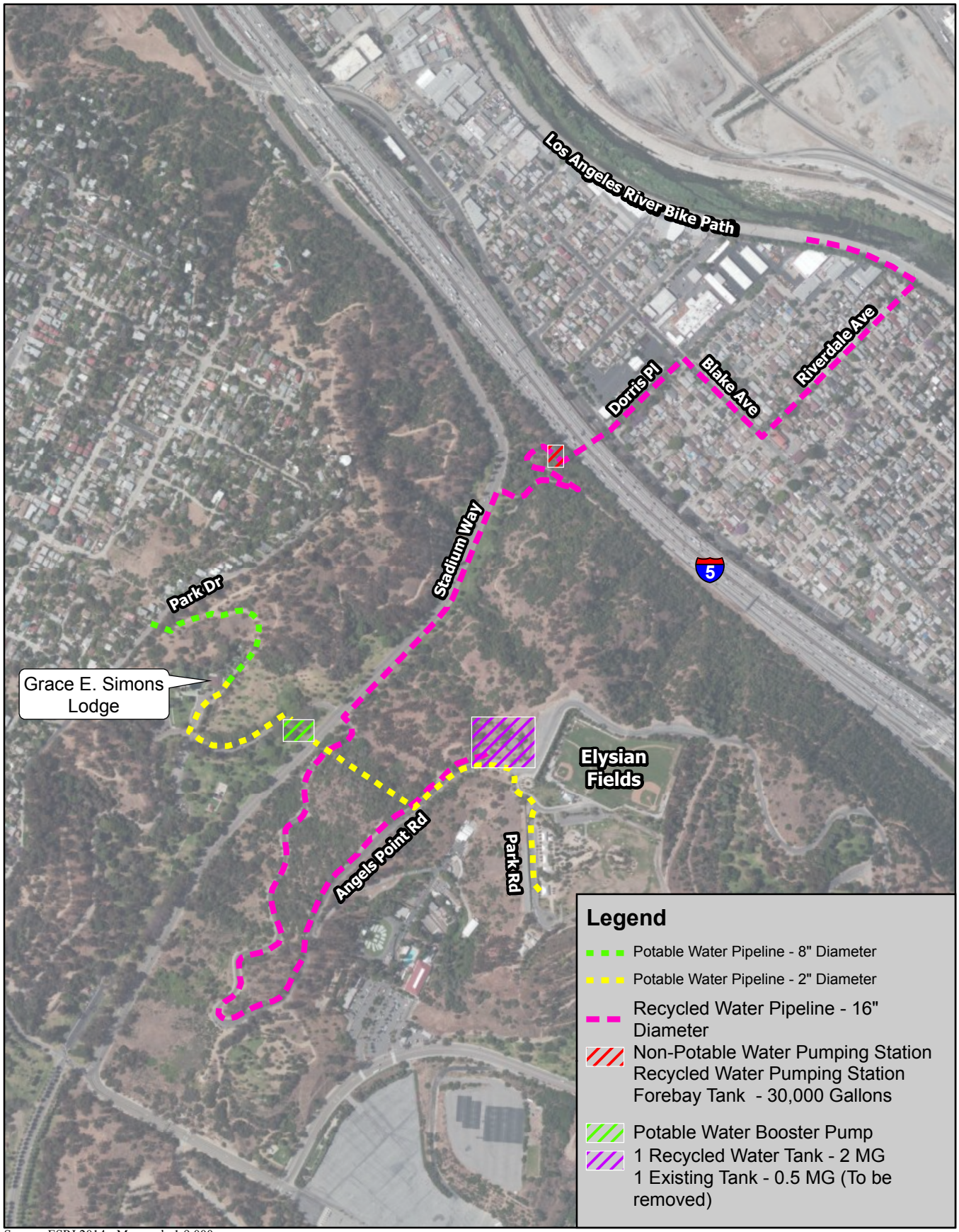
- *Local Groundwater:* The City owns groundwater rights in three Upper Los Angeles River Area groundwater basins – the San Fernando, Sylmar, and Eagle Rock basins – as well as the Central and West Coast Basins, as determined by separate judgments by the Superior Court of the State of California. However, 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.

Source: California Geospatial Information Library (2003-5)

Figure 2-1

Regional Location Map

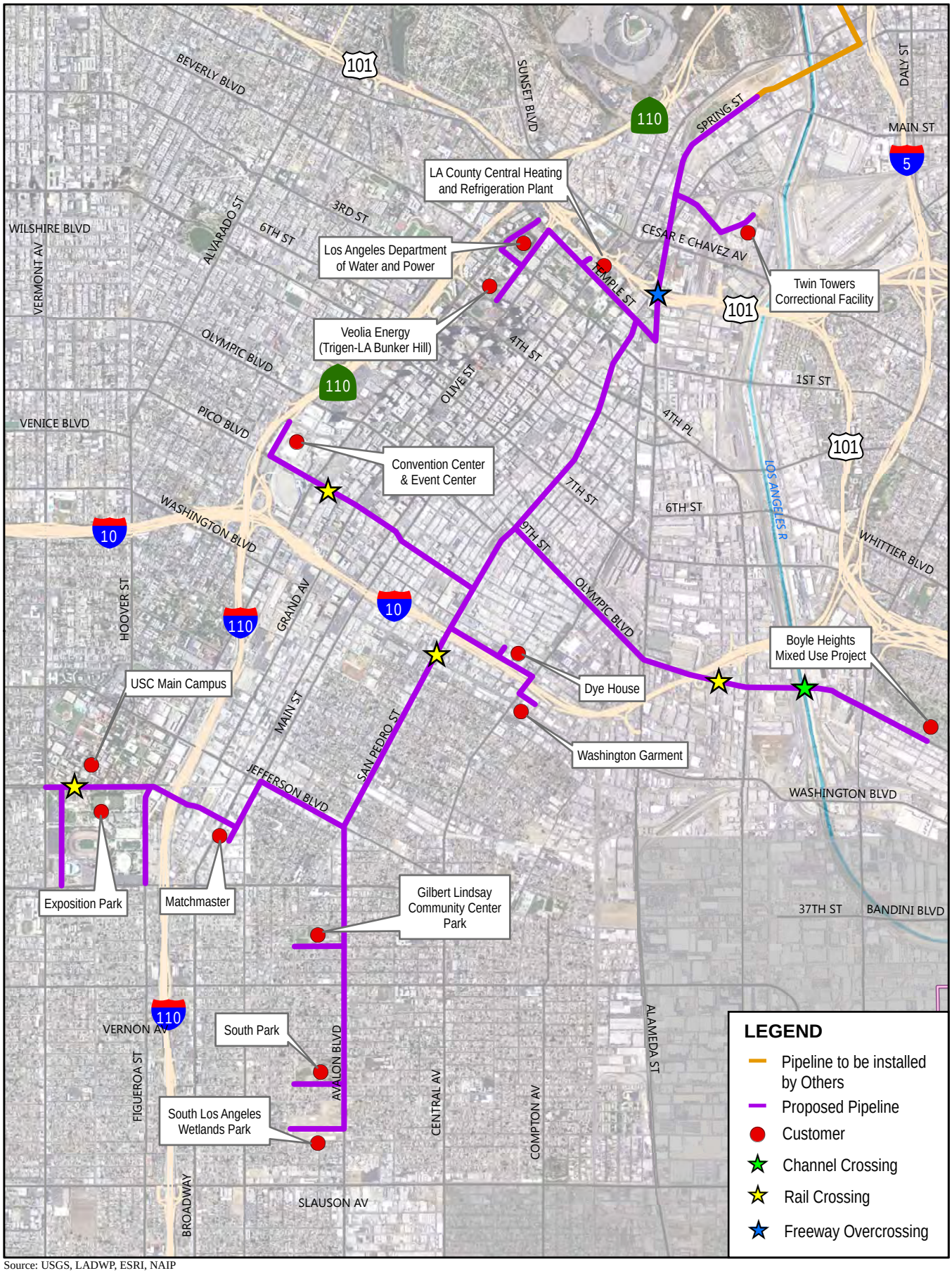
Elysian Park/Downtown WRP



Source: ESRI 2014 - Map scale 1:9,000

0 750 1,500 Feet

Figure 2-2
Project Location Map - Elysian Park WRP



Source: USGS, LADWP, ESRI, NAIP

NOT TO SCALE

Figure 2-3
Project Location Map – Downtown WRP

- *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. The current environmental crisis in the Sacramento-San Joaquin Bay-Delta led to a Federal Court decision that 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. LADWP may request financial assistance from MWD for the proposed project under their Local Resources Program.

In response to the challenges facing the City's water supply, 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 part of this goal are referred to as "Potential."

2.5 Physical Environmental Setting

2.5.1 Existing Land Uses

The Elysian Park WRP project site is primarily located within Elysian Park. However, portions of the project site include the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, and Park Drive in the Elysian Valley community. These portions of the project site currently contain a bike path and paved roadways. The remainder of the project site is located within Elysian Park. The portion of the project site at the park's boundary immediately southwest of I-5 is currently developed with a pump house that is entirely enclosed by chain link fencing. The portion of the project site at the southwest corner of the intersection of Stadium Way and Elysian Park Drive is currently developed with a pump house that is approximately 12-feet tall, four-walled stucco structure with a roof. The portion of the project site located on a hilltop near Elysian Fields currently contains a 500,000 gallon potable water tank. The other portions of the Elysian Park WRP project site located within Elysian Park consist of paved roadways, compacted dirt hiking trails, and disturbed areas.

The Downtown WRP project site is entirely located within paved public roadways in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles.

2.5.2 Surrounding Land Uses

As discussed previously, the Elysian Park WRP would primarily be located within Elysian Park. However, some construction would occur in the Elysian Valley neighborhood along the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, and Dorris Place adjacent to Dorris Place Elementary School and on Park Drive within the Echo Park neighborhood. Installation of the Elysian Park WRP would require tunneling beneath I-5. The Elysian Park WRP would abut residential, public facilities, and open space uses.

The Downtown WRP would abut commercial, residential, light industrial and manufacturing, public facilities, and open space uses.

2.5.3 General Plan Designation and Zoning

The Elysian Park WRP would be located within the Silver Lake – Echo Park – Elysian Valley Community Plan area. The Elysian Park WRP would begin by extending southeast on the Los Angeles River Bike Path on the west side of the Los Angeles River, southwest on Riverdale Avenue to Blake Avenue, northwest on Blake Avenue to Dorris Place, and southwest on Dorris Place continuing beneath I-5 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, while uses on the southeast side are designated as Low Density Residential. Elysian Park is designated as Open Space.

The zoning designations for the Elysian Park WRP include OS (Open Space) on the Los Angeles River Bike Path; R1 (One-Family Residential) along Riverdale Avenue, Blake Avenue, and the southeast side of Dorris Place; PF (Public Facilities) along the northwest side of Dorris Place; and OS in Elysian Park.

The Downtown WRP would be located within the Central City North, Central City, Southeast Los Angeles, South Los Angeles, and Boyle Heights Community Plan areas. The Downtown WRP would be located entirely within the existing roadway right-of-way. The properties adjacent to the Downtown WRP pressure regulator station are designated Limited Industrial and Limited Manufacturing. The properties adjacent to the Downtown WRP recycled water pipeline alignment include the following designations: Light Manufacturing, Heavy Manufacturing, Limited Manufacturing, Public Facilities, Commercial Manufacturing, Regional Commercial, Regional Center Commercial, General Commercial, Community Commercial, Open Space, Low Medium II Residential, Medium Residential, and High Medium Residential.

The properties adjacent to the Downtown WRP pressure regulator station are zoned CM (Commercial Manufacturing) and M1 (Limited Industrial). The properties along the alignment of the Downtown WRP are zoned PF, OS, M1, M2 (Light Industrial), M3-1 (Heavy Industrial), MR1 (Restricted Industrial), ADP (Alameda District Specific Plan), C1 and CR (Limited Commercial), C2 and C2-2 (Commercial), CEC (Convention and Event Center), R4 and R5 (Multiple Dwelling), RD (Restricted Density Multiple Dwelling), and University of Southern California University Park Campus Specific Plan Subarea (1A and 1B).

2.6 Project Objectives

The objectives of the proposed project are to:

- Improve the reliability of the City of Los Angeles water supply through increased recycled water use
- Comply with LADWP's 2010 Urban Water Management Plan outlining the steps to sustain a reliable water supply to meet current and future demand
- Construct and operate 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 connection to recycled water for non-potable uses

2.7 Project Description

In order to achieve the objectives of the proposed project to expand the existing recycled water pipeline network from its current termini near Taylor Yard (Rio de Los Angeles) and Los Angeles State Historic Park to serve Elysian Park and customers in central Los Angeles, the proposed project would be implemented as two separate projects, consisting of the Elysian Park WRP and the Downtown WRP. The proposed project is a standalone project and is not related to any other project(s) along the proposed alignments within Elysian Park, Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, or southeast Los Angeles.

Elysian Park WRP

The Elysian Park WRP 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.

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 and its associated proposed bikeway and pedestrian bridge 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 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 primarily use trench construction known as "cut and cover." An approximately 3-foot wide by 4.5-foot deep trench would be excavated within the bike path and 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 I-5 via a procedure called "pipe jacking". Launching and receiving zones 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 zones and disposed of at an appropriate regional landfill. The zones 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 to be constructed 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 pump house 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 the 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

As discussed in the preceding paragraphs, the Elysian Park WRP 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; and a 2 MG recycled water storage tank on a hilltop near Elysian Fields. Additionally, a new booster pump would be installed within an existing structure 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 non-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 be supplied by an existing potable water pipeline. 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 the approximately 24-foot diameter forebay tank would be placed. The tank would be approximately 12 feet in height. 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 pump house, 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 95-foot diameter recycled water storage tank. The tank would be a steel structure up to approximately 48 feet in height; however, final design of the tank would dictate final dimensions. The recycled water storage tank would be located in an area of the park that is not used for active recreation and currently contains an existing 500,000 gallon water tank. The existing tank would be removed as part of the project, once the new recycled water system is installed and operational.

A proposed new potable water booster pump would be installed at the southwest corner of the intersection of Stadium Way and Elysian Park Drive, and housed within an existing pump house. The booster pump would be installed to maintain the pressure in the potable water pipeline and service to the Elysian Fields area. 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 Elysian Park WRP 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.

Downtown WRP

The Downtown WRP involves the delivery of recycled water to customers located in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. These customers have committed to using recycled water for non-potable uses. A new 16-inch recycled water pipeline would be constructed from Los Angeles State Historic Park WRP, which terminates on Spring Street at Mesnager Street. The Downtown WRP would involve installation of approximately 86,500 linear feet (approximately 16 miles) of new pipeline. Additionally, a new pressure regulator station would be installed on San Fernando Road south of Loosmore Street along an existing recycled water pipeline, upstream of the proposed Downtown WRP pipeline alignment.

Pressure Regulator Station

Construction of the pressure regulator station would involve the installation of two regulator vaults to house regulator valves and appurtenances. The pressure regulator station would be necessary to regulate the water pressure upstream of the proposed new pipeline in order to prevent excessive water pressure within the Downtown WRP system. The proposed new pressure regulator station would be installed entirely below ground. Two areas would be excavated to install this equipment, each measuring approximately 13 feet long by 11 feet wide by 13 feet deep. Excavated soil and other material would be removed and disposed of at an appropriate regional landfill.

Recycled Water Pipeline Installation

The Downtown WRP mainline segment would total approximately 24,050 linear feet, extending from Los Angeles State Historic Park to Jefferson Boulevard through downtown Los Angeles. The mainline segment would generally be constructed within the roadway south along Spring Street to Alameda Street to Temple Street, west along Temple Street to San Pedro Street, and south on San Pedro Street to Jefferson Boulevard. In order to cross U.S. Route 101 (Hollywood Freeway, US 101) on Alameda Street, it would be necessary to install the pipeline along the side of the roadway bridging of the freeway instead of trenching (approximately 150 linear feet). In addition, there is one light rail crossing on the mainline segment. The pipeline would cross the Los Angeles County Metropolitan Transportation Authority (Metro) Blue Line light rail tracks located at San Pedro Street and Washington Boulevard. The light rail crossing would require trenchless construction beneath the tracks so as not to affect rail operations.

From the mainline segment, extensions would serve specific known customers. The Twin Towers Correctional Facility segment would be installed from the mainline segment approximately 2,600 feet east from Alameda Street along Alpine Street to Main Street, continue east on Vignes Street to Bauchet Street, and northeast on Bauchet Street, where it would terminate at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility.

The LADWP segment would be constructed from the mainline segment approximately 6,500 feet west from Judge John Aiso Street along Temple Street to Hope Street, south on Hope Street to 1st Street, west on 1st Street to Dewap Road, and north on Dewap Road to Temple Street, where it would terminate at the John Ferraro Building (LADWP Headquarters). This segment includes two extensions; the first would be installed north from Temple Street along Hill Street and terminate at the Los Angeles County Central Heating and Refrigeration Plant. The second would be installed south from 1st Street to 3rd Street along Hope Street, terminating at the Veolia Energy facility. The two extensions would total approximately 1,500 feet.

The Boyle Heights Mixed Use Project segment would extend approximately 12,950 linear feet; it would be constructed from the mainline segment east from San Pedro Street along 9th Street, continuing east on Olympic Boulevard to Evergreen Avenue. The pipeline would cross railroad tracks located approximately 900 feet west of Santa Fe Avenue serving an industrial complex. Trenchless construction would be required to cross beneath the railroad tracks. In addition, the Boyle Heights Mixed Use Project segment would require a bridge crossing (Olympic Boulevard Viaduct) on Olympic Boulevard totaling 1,750 linear feet over the Los Angeles River. The pipeline would be hung below or along the side of the bridge.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 7,650 feet; it would be constructed west from San Pedro Street along

Pico Boulevard to LA Live Way, and north from LA Live Way to Chick Hearn Court, where it would terminate at the Los Angeles Convention Center and Event Center. The pipeline would cross the Metro Blue Line light rail tracks located at Pico Boulevard and Flower Street. As previously mentioned, the light rail crossing would require trenchless construction so as not to affect rail operations.

The Dye House and Washington Garment segment would extend approximately 3,700 linear feet; it would be constructed from the mainline segment east from San Pedro Street along 16th Street to Central Avenue, south on Central Avenue to 18th Street, and east on 18th Street terminating at Washington Garment. This segment would include one 300-foot extension that would be installed north from 16th Street to 15th Street along Griffith Avenue, terminating at Dye House Inc.

The Exposition Park segment would extend approximately 9,750 linear feet from the mainline segment; it would be installed west on Jefferson Boulevard to Main Street, south on Main Street and continue south on Broadway Place to 37th Place, terminating at Matchmaster Dyeing & Finishing, Inc., located at Broadway Place and 37th Place; at Broadway Place and 37th Street, it would be installed west on 37th Street and continue west on Exposition Boulevard to Vermont Avenue, terminating near the USC main campus. The Metro Expo Line light rail transit system currently travels within the median of Exposition Boulevard near USC. Two at-grade Metro Expo Line stations are located in this area: the Expo Park/USC station at Exposition Boulevard and Trousdale Parkway, and the Expo/Vermont station at Exposition Boulevard and Vermont Avenue. A majority of the recycled water pipeline along Exposition Boulevard would be located south of the Metro Expo Line, on the south side of the street, so as not to interrupt rail and/or station operations. The pipeline would cross the Metro Expo Line light rail tracks at Bill Robertson Lane to reach the north side of Exposition Boulevard to connect to USC. The light rail crossing would involve trenchless construction so as not to affect rail operations. The Exposition Park segment would include two extensions. The first would extend approximately 2,700 feet; it would be installed south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard, directly east of the California Science Center, California African American Museum, Los Angeles Memorial Sports Arena, and other facilities within Exposition Park. The second would extend approximately 2,700 feet; it would be installed south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard, directly west of the Natural History Museum of Los Angeles County, the Los Angeles Memorial Coliseum, and other facilities within Exposition Park.

The South Los Angeles Wetlands Park segment would extend approximately 9,500 feet. From the mainline segment, it would be installed south from Jefferson Boulevard along Avalon Boulevard to 54th Street and west to San Pedro Street, terminating at the South Los Angeles Wetlands Park. Two extensions would originate from this segment. The first would extend 1,300 feet and it would be installed west to San Pedro Street along 42nd Place and terminate at the Gilbert Lindsay Community Center Park. The second would extend 1,300 feet and it would be installed west to San Pedro Street along 51st Street and terminate at South Park.

During installation of the recycled water pipeline, an approximately 2.5-foot wide by 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 the imported slurry and the roadway 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. In general, approximately 90 linear feet of pipeline would be installed each day.

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.

Rail crossings would require tunneling instead of trenching. As described above, launching and receiving zones would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill. The launching and receiving zones would be backfilled with the imported slurry and the area returned to its original condition.

The Downtown WRP would not include any new above-ground structures such as tanks or pumping stations.

2.8 Construction Schedule and Procedures

Construction of the Elysian Park WRP is anticipated to begin in winter 2015 and take approximately 42 months, or 3.5 years, to complete, concluding in summer 2019. However, construction of the Elysian Park WRP 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 for the Elysian Park WRP may be intermittent, not occurring continuously over the estimated construction period. Installation of the pipeline within the Los Angeles River Bike Path is estimated to take approximately 60 days to complete. Construction of the Downtown WRP is anticipated to begin following the completion of the Elysian Park WRP pipeline installation. Construction activities for the Downtown WRP would begin in approximately winter 2019 and would take approximately 30 months, or 2.5 years, to complete, concluding in summer 2021.

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 of the Elysian Park WRP 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. Similarly, the construction of the Downtown WRP would be coordinated with the Los Angeles Memorial Coliseum, Los Angeles Memorial Sports Arena, and LADOT to minimize traffic disturbances on game/event days.

An appropriate combination of monitoring and resource impact avoidance would be employed during all phases of the proposed project, including implementation of the following 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:
    - Water shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes.

  - The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road:
    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.
  - 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).
  - Construction activity on exposed or unpaved dirt surfaces shall be suspended when wind speed exceeds 25 miles per hour (mph).
  - Ground cover in disturbed areas shall be replaced in a timely fashion when work is completed in the area.
  - A community liaison shall be identified concerning on-site construction activity including resolution of issues related to PM_{10} (particulate matter 10 microns in diameter or less) generation.
  - Non-toxic soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).
  - Traffic speeds on all unpaved roads shall be limited to 15 mph or less.
  - Streets shall be swept at the end of the day if visible soil is carried onto adjacent public paved roads. If feasible, water sweepers with reclaimed water shall be used.

- 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 may include, but would 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 may include 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.
- The proposed project would comply with the Regional Water Quality Control Board's National Pollution Discharge Elimination System.
- The pipeline alignment would not be located within 15 feet of a residential or institutional building, or within 12 feet of a commercial building to minimize vibration induced building damage, where feasible.
- Residences and businesses near the pipeline alignment would be notified prior to the start of construction (e.g., via flyers) of lane closures and parking restrictions in their

vicinity. The notices would 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.

- LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, City of Los Angeles Community Development Department, and the Los Angeles Unified School District.

2.9 Intended Uses of the EIR

An EIR is a public document used by a public agency to analyze the environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid significant environmental impacts (CEQA Guidelines Section 15121). As an informational document, an EIR does not advocate for or against approving a project. The main purpose of an EIR is to inform governmental decision makers and the public about potential environmental impacts of the project. This EIR will be used by LADWP, as the lead agency under CEQA, in making decisions with regard to the approval of the proposed project described above or an alternative to the proposed project, the subsequent construction and operation of the project, and the related approvals described herein.

2.10 Project Approvals

LADWP is the project lead agency pursuant to CEQA Guidelines Section 15367. Numerous approvals and/or permits would be required to implement the proposed project. The environmental documentation for the project would be used to facilitate compliance with federal and state laws and the granting of permits by various state and local agencies having jurisdiction over one or more aspects of the project. These approvals and permits may include, but may not be limited to, the following:

City of Los Angeles Department of Public Works, Bureau of Engineering

- Excavation Permit

- Grading Permit

City of Los Angeles Department of Building and Safety

- Building Permit

City of Los Angeles Department of Public Works, Bureau of Sanitation, Stormwater Management Division

- Discharge permit for construction dewatering and hydrostatic test water discharge in storm drains

City of Los Angeles Department of Recreation and Parks

- Right of Entry Permit

City of Los Angeles Department of Transportation

- Approval of Traffic Management Plan
- Approval of temporary road closures

Los Angeles Metropolitan Transportation Agency

- Right-of-Way Encroachment Permit

State of California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit

- Underground Classification Permit for tunneling and jacking locations

State of California Department of Transportation

- Encroachment Permit

State of California, Los Angeles Regional Water Quality Control Board

- National Pollution Discharge Elimination System Permit for construction dewatering and hydrostatic test water discharge

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CHAPTER 3
ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

The following chapters of this EIR include an analysis, by issue area, of the proposed project's potential effects on the environment. Each environmental issue area chapter includes the following subsections:

- Environmental Setting
- Regulatory Setting
- Environmental Impacts
- Mitigation Measures
- Significance after Mitigation

The mitigation measures provided in these chapters are proposed by LADWP, unless otherwise noted. The environmental issue areas analyzed in this EIR are as follows:

- Aesthetics (Chapter 3.1)
- Air Quality (Chapter 3.2)
- Biological Resources (Chapter 3.3)
- Cultural Resources (Chapter 3.4)
- Greenhouse Gas Emissions (Chapter 3.5)
- Land Use and Planning (Chapter 3.6)
- Noise (Chapter 3.7)
- Transportation and Traffic (Chapter 3.8)

As identified in the Initial Study (Appendix A) prepared in May 2014, the following are the environmental issue areas that were not found to be significantly impacted or potentially impacted by the proposed project:

- Agriculture and Forestry Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

Therefore, no further evaluation of these environmental issue areas is necessary in this EIR. Chapter 4, Impact Overview, includes a brief discussion of impacts that were not found to be significant.

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CHAPTER 3.1
AESTHETICS

The purpose of this chapter is to identify and evaluate key visual and aesthetic resources in the vicinity of the project site and to determine the degree of visual and aesthetic impacts that would be attributable to the proposed project.

The character of the existing visual environment was documented through field reconnaissance, photographic records, and aerial photograph interpretation. The description of the visual environment of the project site provides a baseline against which the effects of the proposed project are assessed. Descriptors used to assess the visual environment include visual character, visual quality, visual resources, viewer groups and their sensitivity, and view duration. The analysis describes the aesthetic impacts of the proposed project on the existing landscape and built environment, focusing on the compatibility of the proposed project with existing conditions and its potential impact on visual resources.

3.1.1 Environmental Setting

Visual Character

The visual character of urban environments can be defined as the overall physical image of the urban environment. Several factors contribute to this image, including: (1) nature and quality of building architecture and the landscape; (2) cohesion of the area's collective architecture and landscape; (3) compatibility between uses and activities with the built environment; (4) quality of the streetscape, including roadways, sidewalks, plazas, parks, and street furniture; and (5) quality and nature of private property landscaping that is visible to the general public.

Visual character functions as a point of reference in assessing whether the proposed project's features would appear to be compatible with the existing built environment. In general, evaluation of visual character is determined by the degree of contrast that could potentially result between the proposed project and the existing built environment. Contrast is assessed by considering the consistency of the following features of the proposed project with those of the existing built environment: (1) scale or the general intensity of development comprised of the height and set back of buildings and structures; (2) massing or the volume and arrangement of buildings and structures; and (3) open space or the set back of buildings and structures, and the amount of pedestrian spaces.

Elysian Park WRP

The Elysian Park WRP would primarily be located 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 portion of the Elysian Park WRP project site at Elysian Park's boundary immediately southwest of I-5 is currently developed with a small, square, gray-colored pump house that is entirely enclosed by an 8-foot-tall chain link fence. The portion of the project site at the southwest corner of the intersection of Stadium Way and Elysian Park Drive is currently developed with a pump house that is housed within a beige-colored, approximately 12-foot-tall and 144-square-foot, four-walled stucco structure with a gabled roof. The portion of the project

site located on a hilltop near Elysian Fields currently contains a cylindrical, beige-colored approximately 500,000 gallon potable water tank that is 65 feet in diameter and 21 feet in height. The other portions of the Elysian Park WRP project site located within Elysian Park consist of paved roadways, compacted dirt hiking trails, and disturbed areas. Although this portion of the project site is surrounded by some natural vegetation, mature trees, and terrain, the existing pump houses, potable water tank, roadways, trails, and other disturbed areas themselves are not visually unique or memorable.

The Elysian Park WRP project site is located in an urbanized area of Los Angeles directly adjacent to I-5 and SR 110. The Elysian Park WRP project site is primarily located within Elysian Park. However, there are many portions of Elysian Park itself that surround the project site and contribute to the surrounding visual environment (Figure 3.1-1).

Elysian Park is situated on heavily vegetated, low hills, which makes this portion of the project site generally higher in elevation than the surrounding roadways, freeways, communities, and neighborhoods. The park provides a mix of active and passive recreation uses. The park contains picnic areas; hiking trails and walking paths; athletic fields (Elysian Fields), volleyball courts, and tennis courts; playgrounds; the Grace E. Simons Lodge community center (Figure 3.1-2); parking areas; and large areas of undeveloped open space. Elysian Park itself is subdivided by several major public thoroughfares that physically and visually segregate various sections of the park. In addition, the park is bordered on the south by Dodgers Stadium. There are also views of the downtown Los Angeles skyline from the southern portions of Elysian Park, including Angels Point overlook area. The views of the skyline provided from within the park area surrounding the southern portion of the project site are visually memorable.

The remaining portion of the Elysian Park WRP project site includes a portion of the Los Angeles River Bike Path and paved roadways, including Riverdale Avenue, Blake Avenue, and Dorris Place within the residential Elysian Valley community. There are no existing above-ground structures located within this portion of the Elysian Park WRP alignment. There are no visually unique or memorable features within the Elysian Valley portion of the project site.

The area surrounding the Elysian Park WRP project site outside of Elysian Park is primarily characterized by residential communities. As shown in Figure 3.1-3, the Elysian Valley community consists of single- and multi-family residential buildings of approximately one to two stories in height. The architectural styles of the residential buildings vary greatly as dates of construction range from the 1920s to the 1970s.[1] The roadways located within the Elysian Valley community are relatively narrow with some mature and other street trees. The residential buildings located within the Elysian Valley community are modest, and in many cases dilapidated, including a large amount of barred-windows. As such, these buildings do not exhibit any visually unique or memorable features.

Dorris Place Elementary School is located adjacent to the project site in the Elysian Valley community. One of the school buildings that fronts onto Dorris Place is constructed of red bricks and exhibits a memorable architectural style as compared to the surrounding residential buildings in the community.

The concrete-lined Los Angeles River is located adjacent and to the northeast of the project site. The Los Angeles River Bike Path is located on the southern border of the river. This portion

[1] Los Angeles County, Office of the Assessor. Property Assessment Information System. Available at: http://maps.assessor.lacounty.gov/mapping/viewer.asp. Accessed: July 28, 2014.

of the Los Angeles River includes some light-green and brown-colored trees and shrubs that are situated in the concrete river bed itself. The concrete, and thereby industrial, character of the river, as well as the presence of overhead utility towers, poles and transmission lines contributes to the lack of visually unique or memorable features in the portion of the Los Angeles River.

Figure 3.1-1: Existing view toward northeast along Angels Point Road within Elysian Park

Figure 3.1-2: Existing view towards northwest of Grace E. Simons Lodge within Elysian Park

Figure 3.1-3: Existing view facing northeast along Dorris Place in Elysian Valley

Downtown WRP

The proposed Downtown WRP would be located within public streets in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. The Downtown WRP project site abuts commercial, residential, and public facilities uses. It consists entirely of paved roadways in highly urbanized areas, with no existing above-ground structures present. As such, there are no visually unique or memorable features within the Downtown WRP.

The area surrounding the Downtown WRP project site is fully developed and urbanized. The communities that surround the Downtown WRP project site include Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. As shown in Figures 3.1-4 through Figure 3.1-7, a mix of residential, commercial, industrial, and office buildings, and other structures of varying heights characterize the adjacent and surrounding area of the Downtown WRP. Other uses in the vicinity of the project site include the Los Angeles Convention and Event Center; the University of Southern California and associated facilities; Exposition Park, which includes the Natural History Museum, the California Science Center, the California African American Museum, and the Los Angeles Coliseum and Sports Arena; and the South Los Angeles Wetlands Park. Additionally, Downtown WRP alignment crosses over the Los Angeles River via the Olympic Boulevard Bridge.

As discussed in Chapter 2, Project Description, the Downtown WRP consists of a mainline segment that would generally follow Spring Street, Alameda Street, Temple Street, and San Pedro Street ending at Jefferson Boulevard. The areas surrounding the mainline segment include a mix of older industrial buildings, dilapidated commercial buildings, offices, as well as multi-family residential buildings. The mainline segment is specifically located adjacent to the cultural area of Little Tokyo, as well as the Skid Row area. Overall, the visual character of the areas surrounding the mainline segment does not include visually unique or memorable features.

Figure 3.1-4: Existing view facing southeast on San Fernando Road at Loosmore Street

Figure 3.1-5: Existing view facing southwest on Dewap Road, between 1st and Temple Streets

Figure 3.1-6: Existing view facing northwest toward Los Angeles Convention Center

Figure 3.1-7: Existing view facing west/southwest along Olympic Boulevard

As discussed in Chapter 2, Project Description, the Downtown WRP mainline segment would include several extension segments as follows: the Twin Towers Correctional Facilities, LADWP, Boyle Heights Mixed Use Project, Los Angeles Convention Center and Event Center, Dye House and Washington Garment, Exposition Park, and South Los Angeles Wetlands Park segments. The areas surrounding these extension segments generally do not include visually unique or memorable features, with the exception of the Exposition Park segment. The Exposition Park segment is located adjacent to the University of Southern California main campus, and Exposition Park, which includes an extensive rose garden, the Natural History Museum of Los Angeles County, and the Los Angeles Memorial Coliseum.

Viewpoints

Elysian Park WRP

A majority of the Elysian Park WRP is located within Elysian Park. Due to its elevation, the park is visible from locations to the east, north, and west. The Elysian Park WRP would be located within the central and northern portions of the park nearest to the adjacent I-5 freeway and the Elysian Valley neighborhood located to the north. Views of Elysian Park from the Elysian Valley community include a relatively steep hillside with numerous mature trees and other vegetation. Views of existing buildings, water tanks, pump houses, other structures, or roadways located within the park are not visible from the Elysian Valley neighborhood and I-5 due to the existing screening of mature trees and other vegetation. The mature trees and other existing vegetation, as well as intervening development block views of existing structures.

There are views of the downtown Los Angeles skyline from the southern portions of Elysian Park, including Angels Point overlook area. In addition, there are views of the downtown Los Angeles skyline from Angels Point Road itself; however, these views are interrupted by mature trees and other vegetation within the park. Many of the available views from within the Elysian Park WRP are publicly accessible, except for the roads that are closed and used only for park employees and maintenance purposes. Recreational users within the park currently have direct views of the Elysian Park WRP project site.

Views from the Elysian Park WRP within the Elysian Valley community consist primarily of south-facing views of the heavily vegetated Elysian Park hillside. However, the existing water tanks and pump houses on the Elysian Park portion of the project site are not visible due to vegetation screening, and intervening development and trees within the Elysian Valley community.

The Los Angeles River Bike Path is visually separated by fencing from the directly adjacent residential community of Elysian Valley. As such, the bike path is not directly visible from the residential area. Views from the bike path itself consist of distant north-facing views of the San Gabriel Mountains, as well as close-up views of vegetation within the concrete-lined river, and industrial uses and vacant parcels on the northern side of the Los Angeles River.

Downtown WRP

Views available from the Downtown WRP project site include typical vehicle and driver views from public roadways within Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. Views from the project site include the adjacent land uses that are located along each roadway, as well as distant views of the San Gabriel Mountains from certain locations. In addition, views of the Downtown WRP project site are

available to vehicle drivers, patrons and employees of project area land uses, as well as residents.

Scenic Vistas

Scenic views or vistas are panoramic public views to various natural features, including the ocean, striking or unusual natural terrain, or unique urban or historic features. Public access to these views may be from park lands, private and publicly owned sites, and public right-of-way.[2]

Elysian Park WRP

The Elysian Park WRP project site is located in the northern portion of the City of Los Angeles, with distant north-facing views of the San Gabriel Mountains located approximately 10 miles to the north/northeast. In addition, there are views of the downtown Los Angeles skyline from certain areas along Angels Point Road, within Elysian Park. As a result, some vertical relief and occasional dramatic focal points exist that enhance views from within the project site and area. These views are interrupted by existing development, mature trees and vegetation. The City of Los Angeles General Plan and Silver Lake-Echo Park-Elysian Valley Community Plan do not designate any scenic vistas in the project area. The Final Draft Elysian Park Master Plan identifies Elysian Fields as providing a scenic overlook of the Elysian Valley and plans to establish a permanent viewpoint from this location in the future.[3] However, no designated scenic vistas are currently located within the project site or vicinity.

Downtown WRP

The Downtown WRP project site is located in the central and southern portions of the City of Los Angeles, with distant north-facing views of the San Gabriel Mountains available from certain locations. The San Gabriel Mountains are located approximately 11 to 15 miles north/northeast of the project site. In addition, there are views of the downtown Los Angeles skyline from certain locations within the Downtown WRP. As a result, some vertical relief and occasional dramatic focal points may exist that enhance views from within the project site and area. These views are interrupted by existing development, mature trees, and overhead power transmission towers, poles, and lines. The City of Los Angeles General Plan, as well as the Central City North, Central City, Southeast Los Angeles, South Los Angeles, and Boyle Heights Community Plans do not designate any scenic vistas in the project area. As such, no designated scenic vistas are currently located within the project site or vicinity.

3.1.2 Regulatory Setting

Regional

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

The 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted by the Southern California Association of Governments (SCAG) in April 2012 and replaces the 2008 RTP.[4] The RTP/SCS serves as a regional transportation planning tool

[2] City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Conservation Element*, adopted September 26, 2001.

[3] City of Los Angeles Department of Recreation and Parks, *Final Draft Elysian Park Master Plan*, June 2006.

[4] Southern California Association of Governments, *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*, adopted April 2012, available online at: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx, accessed September 10, 2013.

through the year 2035 composed of a financial plan, sustainable communities strategy, and a strategic plan. The RTP/SCS identifies available and reasonably foreseeable sources of funding, which it directs to multimodal transportation projects that benefit SCAG's member communities. The vision for the 2012-2035 RTP/SCS is centered on three key principles for the region, including mobility, economy, and sustainability. The mitigation program of the 2012–2035 RTP/SCS generally includes strategies to reduce impacts where transportation and sensitive lands intersect. The aesthetics mitigation program includes, but is not limited to, the following types of example measures:

- Encourage project implementation agencies to implement design guidelines to protect views of scenic corridors; encourage project implementation agencies to use construction screens and barriers that complement the existing landscape;
- Encourage project implementation agencies to complete design studies for projects in designated or eligible scenic highways; and
- In visually sensitive areas, encourage local land use agencies to apply development standards and guidelines that maintain compatibility.

Local

City of Los Angeles General Plan

There are no elements in the City of Los Angeles General Plan that specifically refer to aesthetics or visual quality; however, the Framework Element of the General Plan contains Chapter 5, Urban Form and Neighborhood Design, which helps to define the visual form and character of new development within the City. This chapter of the Framework Element defines "urban form" as the general pattern of building height and development intensity, as well as the structural elements that define the City physically, including natural features, transportation corridors (including the planned fixed rail transit system), open space, public facilities, activity centers, and focal elements. Neighborhood design includes the physical character of neighborhoods and communities within the City.[5]

Listed below are the policies presented within Chapter 5, Urban Form and Neighborhood Design that may be applicable to the proposed project:

- Policy 5.9.1: Facilitate observation and natural surveillance through improved development standards which provide for common areas, adequate lighting, clear definition of outdoor spaces, attractive fencing, use of landscaping as a natural barrier, secure storage areas, good visual connections between residential, commercial, or public environments and grouping activity functions such as child care or recreation areas.[6]

Silver Lake-Echo Park-Elysian Valley Community Plan

The Elysian Park WRP project site is located within the Silver Lake-Echo Park-Elysian Valley Community Plan area in the central area of the City. A distinguishing feature of the Silver Lake-Echo Park-Elysian Valley Community Plan area is its fairly dense, hillside neighborhoods which are often characterized by steep slopes and narrow streets. Residential neighborhoods within the Plan area tend to contain a mix of single-family and multi-family structures, particularly in

[5] City of Los Angeles, Department of City Planning. Framework Element of the General Plan, Chapter 5 Urban Form and Neighborhood Design. Re-Adopted by City Council on August 8, 2001.
[6] City of Los Angeles, Department of City Planning. Framework Element of the General Plan, Chapter 5 Urban Form and Neighborhood Design. Re-Adopted by City Council on August 8, 2001.

older neighborhoods such as Angelino Heights. Listed below are the policies presented within the Silver Lake-Echo Park-Elysian Valley Community Plan that may be applicable to the proposed project:

- Policy 1-3.2: Preserve existing views in hillside areas.
- Policy 1-5.1: Protect and enhance the historic and architectural legacy of the Plan area's neighborhoods.
- Policy 1-5.2: Encourage reuse of historic resources in a manner that maintains and enhances the historic character of structures and neighborhoods.
- Policy 2-2.1: Preserve existing pedestrian-oriented areas.
- Policy 2-3.1: Proposed developments should be designed to enhance and be compatible with existing adjacent development.
- Policy 4-1.1: Preserve the existing recreational facilities and park space.
- Policy 4-1.2: Preserve and encourage acquisition, development and funding of new recreational facilities and park space with the goal of creating greenways and trail systems.
- Policy 5-1.1: Encourage the retention of passive and visual open space which provides a balance to the urban development of the Plan area.

Elysian Park Master Plan

The Final Draft Elysian Park Master Plan, prepared by LARAP, is a working list of action items that were determined by the surrounding community and the City as critical to the on-going improvement of Elysian Park. The purpose of the master plan is the preservation and protection of Elysian Park. The master plan draws on historic information to form a list of recommendations to improve existing conditions in the park and to solve persistent problems that continue to deter park use. All areas of the park are connected by the communities, the network of trails, the natural areas, and the active and passive recreational uses. The master plan identifies Elysian Fields as providing a scenic overlook of the Elysian Valley and plans to establish a permanent viewpoint from this location.[7]

3.1.3 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not substantially damage scenic resources within a state scenic highway; or create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Accordingly, these issues are not further analyzed in the EIR.

[7] City of Los Angeles Department of Recreation and Parks, *Final Draft Elysian Park Master Plan*, June 2006.

However, pursuant to the CEQA Guidelines, the proposed project would have a significant effect on aesthetic resources if it would:

- Have a substantial adverse effect on a scenic vista; or
- Substantially degrade the existing visual character or quality of the site and its surroundings.

Methodology for Assessing Visual Impact

A sequence of steps was followed to assess the proposed project's potential to create significant adverse aesthetic impacts. First, public viewpoints of the project sites were determined based on accessibility to the viewpoints, the general visibility of the project sites from the viewpoints, and the project sites' contribution to the scenic quality of the view from the viewpoints. Second, the appearance of the proposed project from accessible viewpoints was determined. Third, the level of impact to the visual environment was determined in relation to the CEQA significance criteria.

Impact Analysis

VIS-1 *The proposed project would not have a substantial adverse effect on a scenic vista. The impact would be less than significant.*

The proposed project would not have an adverse effect on a scenic vista. Scenic views or vistas are panoramic public views to various natural features, including the ocean, striking or unusual natural terrain, or unique urban or historic features. Public access to these views may be from park lands, private and publicly owned sites, and public right-of-way.[8]

Elysian Park WRP

The Elysian Park WRP would include some permanent above-ground structures, all of which would be located within Elysian Park. Above-ground structures proposed as part of the Elysian Park WRP include a potable water booster pump near Stadium Way and Elysian Park Drive; a recycled water pumping station, non-potable water pumping station, and 30,000 gallon forebay tank at the park's boundary near I-5; and a new recycled water tank on a hilltop near Elysian Fields. The Silver Lake-Echo Park-Elysian Valley Community Plan does not identify any official scenic vistas at or near the proposed locations for any of these structures.[9]

The recycled and non-potable water pumping stations located on the west side of I-5 within Elysian Park would not be visible from public viewpoints because of intervening vegetation between the facilities and view locations. The 30,000 gallon forebay tank proposed to be located on the west side of I-5 on a service road within Elysian Park would also not be visible from public viewpoints due to vegetation screening. The forebay tank and pumping stations would not be visible from I-5 due to intervening vegetation and the higher speeds of travel of motorists on the freeway. The residential community located in the Elysian Valley would not have views of the forebay tank and pumping stations due to the presence of existing development and the distance from the park. Similarly, views of the proposed recycled and non-potable water

[8] City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Conservation Element*, adopted September 26, 2001.

[9] City of Los Angeles Department of City Planning, *Silver Lake – Echo Park – Elysian Valley Community Plan*, adopted August 11, 2004.

pumping stations are obstructed from Stadium Way by intervening vegetation. The forebay tank would be located along a park service road that is not accessible to the public. There are no park facilities that would have a view of the proposed forebay tank or recycled and non-potable water pumping stations and the Final Draft of the Elysian Park Master Plan does not identify a scenic vista in this area of the park.[10] Therefore, there would be no impact to a scenic vista.

The area near Grace E. Simons Lodge where the potable water booster pump would be installed is not identified in the Final Draft of the Elysian Park Master Plan as a scenic viewpoint or viewshed.[11] As discussed in Chapter 2, Project Description, the proposed new booster pump would be installed within an existing pump house. Therefore, there would be no impact to a scenic vista.

The Final Draft Elysian Park Master Plan identifies Elysian Fields as providing a scenic overlook of the Elysian Valley and plans to establish a permanent viewpoint from this location.[12] The viewshed is directed to the southeast, south, and southwest away from the location of the proposed recycled water tank. Further, the proposed new recycled water tank would be constructed in an area adjacent to an existing potable water storage tank, although the existing tank would be removed as part of this project. Although the proposed new recycled water tank would be visible from this location, it would not be part of the scenic vista. Therefore, the impact to the scenic vista would be less than significant.

The proposed project would include the installation of recycled water pipeline along a 700-foot segment of the existing Los Angeles River Bike Path near the northern terminus of Dorris Place in the Elysian Valley neighborhood. This segment of the bike path would require temporary closure and detour during the construction of the Elysian Park WRP for approximately 60 days. During this time, views of the Los Angeles River from and adjacent to this segment of the bike path would not be available. However, this view is not designated as a scenic vista and the Los Angeles River is a concrete-lined channel with no unique visual features. Prior to construction, LADWP would coordinate with LADOT regarding the closure of this segment of the bike path and would provide continued public access to the adjacent portions of the bike path that would not be temporarily closed during construction. To notify the public, signs would be posted near the construction area and a detour route established (see mitigation measure TR-1 in Chapter 3.8, Transportation and Traffic). The impact would be less than significant.

Downtown WRP

The Downtown WRP does not involve construction and operation of any permanent above-ground structures. Following installation of the recycled water pipeline and pressure regulator station, the existing roadways would be returned to their existing condition. Therefore, no impact to scenic vistas would occur with implementation of the Downtown WRP.

[10] City of Los Angeles Department of Recreation and Parks, *Final Draft Elysian Park Master Plan*, June 2006.
[11] Ibid.
[12] Ibid.

VIS-2 *The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. The impact would be less than significant with the implementation of mitigation measures.*

Elysian Park WRP

The recycled water pipeline would be installed primarily within Stadium Way and other park roads. All roadways disturbed during construction would be returned to their existing conditions upon completion of construction. Therefore, pipeline construction would have a less than significant impact to the visual character of Elysian Park.

As previously mentioned, the Elysian Park WRP would include permanent above-ground structures, all of which would be located within Elysian Park. The forebay tank and recycled and non-potable water pumping stations located on the west side of I-5 within Elysian Park 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. The forebay tank would be located along a park service road that is not accessible to the public. The proposed new pumping stations would be located in a portion of the park that is not used for active recreation, picnic facilities, or passive hiking. It is not likely that the forebay tank or pumping stations would be viewed and, therefore, it would not substantially degrade the existing visual character of the surrounding portions of the park. The impact would be less than significant.

The potable water booster pump located near Stadium Way and Elysian Park Drive 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. 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. Although the proposed new tank would be larger than the existing tank, it would remain the same height. 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. Implementation of mitigation measures VIS-A and VIS-B are required to reduce the impact to a less than significant level.

As previously mentioned, the proposed project would include the installation of recycled water pipeline along a 700-foot segment of the existing Los Angeles River Bike Path near the northern terminus of Dorris Place in the Elysian Valley neighborhood. This segment of the bike path would require temporary closure and detour for approximately 60 days during the construction of the Elysian Park WRP. During this time, the visual character of views of Los Angeles River from and adjacent to this segment of the bike path may be altered. However, this view is not designated as a scenic vista and the Los Angeles River is a concrete-lined channel with no unique features. Prior to construction, LADWP would coordinate with LADOT regarding the closure of this segment of the bike path and providing continued public access to the adjacent portions of the bike path that would not be temporarily closed during construction. To notify the public, signs would be posted near the construction area and a detour route established (see

mitigation measure TR-1 in Chapter 3.8, Transportation and Traffic). The impact would be less than significant.

Downtown WRP

The Downtown WRP does not involve the construction of any permanent above-ground structures. Following installation of the recycled water pipeline, the existing roadways would be returned to their existing conditions. Therefore, no impact to the existing visual character or quality of the site and its surroundings would occur with implementation of the Downtown WRP.

3.1.4 Mitigation Measures

VIS-A At the completion of construction of the Elysian Park WRP, LADWP, in coordination with LARAP shall paint the proposed new recycled water tank in a neutral color chosen to blend in with the surrounding park setting. The final design shall be reviewed by a qualified architectural historian. Interested parties, including LARAP, shall be contacted to solicit input on the design of the new recycled water tank.

VIS-B At the completion of construction of the Elysian Park WRP, 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. Interested parties, including LARAP, shall be contacted to solicit input on the design of the new recycled water tank.

3.1.5 Significance After Mitigation

The impact would be less than significant with the implementation of mitigation.

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CHAPTER 3.2
AIR QUALITY

This chapter examines the degree to which the proposed project may result in significant adverse changes to air quality. This chapter includes a description of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term construction and long-term operational air quality impacts of the proposed project. The air quality analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutant released into the air, measured in pounds per day. "Concentrations" refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). The following analysis is based on the *Elysian Park-Downtown Water Recycling Projects Air Quality Impact Report*, prepared by Terry A. Hayes Associates, Inc. in January 2015. This report is included as Appendix C of this EIR.

3.2.1 Pollutants and Effects

Air quality is defined by ambient air concentrations of seven specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. These specific pollutants, known as "criteria air pollutants", are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include carbon monoxide (CO), ground-level ozone (O_3), nitrogen oxides (NO_x), sulfur oxides (SO_x), 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 and in more detail in Appendix C of this EIR.

Carbon Monoxide. CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, CO occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline. 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, a colorless gas with a sharp odor, is a highly reactive form of oxygen. High O_3 concentrations exist naturally in the stratosphere. However, it is also formed in the atmosphere when reactive organic gases (ROG), which include volatile organic compounds (VOC) and NO_x, react in the presence of ultraviolet sunlight (also known as smog). The primary sources of ROG and NO_x, the components of O_3, are automobile exhaust and industrial sources. Some mixing of stratospheric O_3 downward through the troposphere to the earth's surface does occur; however, the extent of O_3 transport is limited. While O_3 is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth's surface. Short-term exposures (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.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas formed from the nitrogen (N) and oxygen (O) in air under conditions of high temperature and pressure, which are generally present during combustion of fuels (e.g., motor vehicles). NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NO_x. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form O_3, via a complex series of chemical reactions involving hydrocarbons. Recent studies have found associations between NO_2 exposure and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

Sulfur Dioxide. SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid, which contributes to acid precipitation, and sulfates, which are components of particulate matter. The main sources of SO_2 are coal and oil used in power plants and industrial facilities. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. Very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Particulate Matter. Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. 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. $PM_{2.5}$ 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. Respirable particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis, and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of particulate matter. A consistent correlation between elevated ambient fine particulate matter ($PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admission has been observed.

Lead. Pb in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric Pb over the past three decades. Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and a lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

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, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health.

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.

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 PM from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other air toxics 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 ultrafine 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, and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea, as well as exacerbate asthma.

3.2.2 Existing Environmental Setting

Air Pollution Climatology

The project site is located within the Los Angeles County portion of the South Coast Air Basin. The South Coast Air Basin is bounded by the Pacific Ocean to the west and south and the San

Gabriel, San Bernardino, and San Jacinto Mountains to the north and east (Figure 3.2-1). The South Coast Air Basin is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). 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 South Coast Air Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles, which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air 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

The South Coast Air 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 South Coast Air 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 South Coast Air Basin are associated with heavy traffic. NO_2 concentrations are also generally higher during fall and winter days.

Local Climate

The mountains and hills within the South Coast Air Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the project area, 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 project site predominately blows from the southwest.[1]

[1] SCAQMD, *Meteorological Data,* available at http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data, accessed June 23, 2014.

Source: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

0 75 150 300 Miles

Figure 3.2-1
South Coast Air Basin

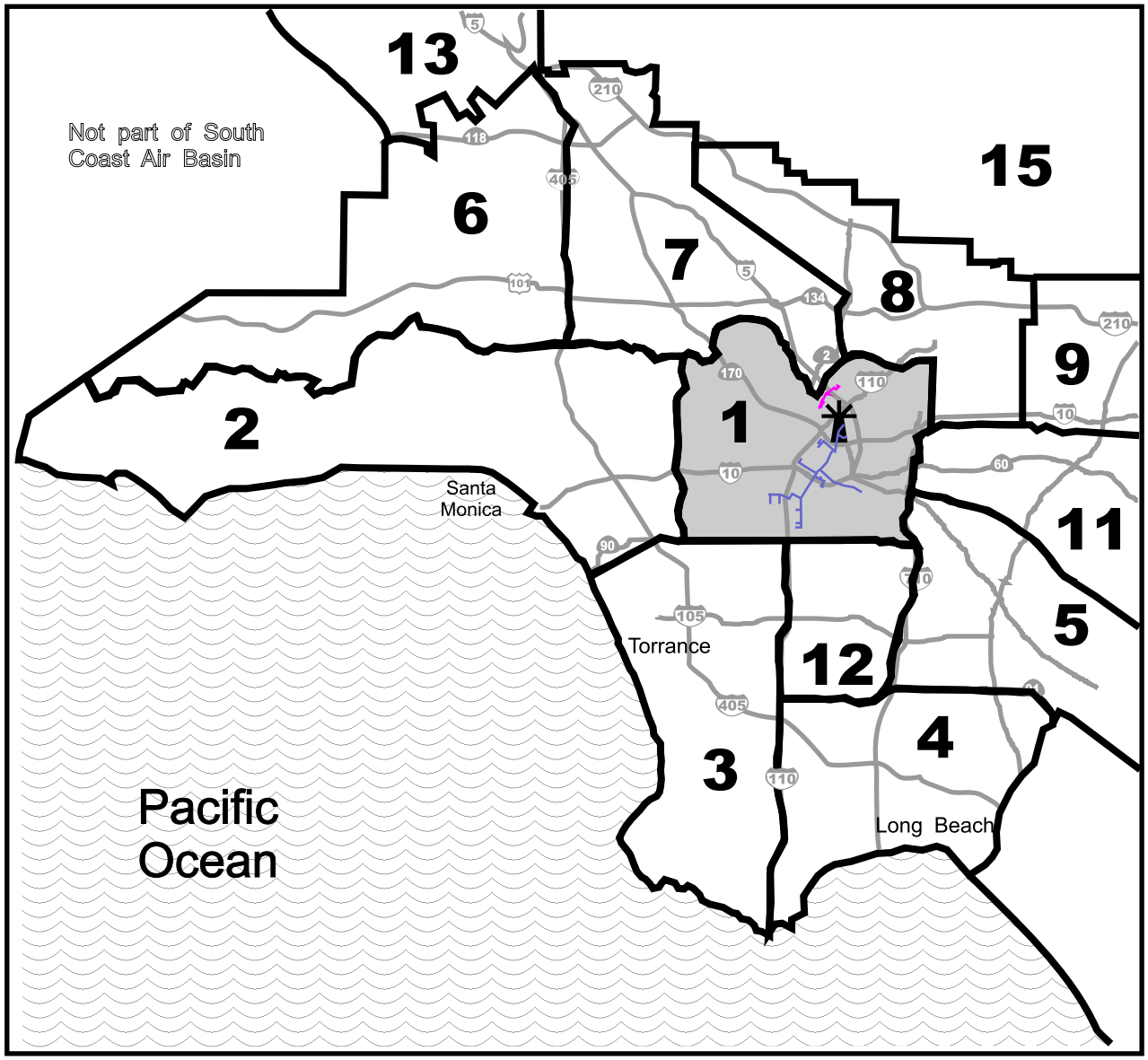
The annual average temperature in the project area is 74°F.[2] The project area experiences an average winter temperature of 67°F and an average summer temperature of 81°F. Total precipitation in the project area averages approximately 15 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Rainfall averages 9 inches during the winter, 3.8 inches during the spring, 2 inches during the fall, and less than 1 inch during the summer.[3]

Air Monitoring Data

The SCAQMD monitors air quality conditions at 38 locations throughout the South Coast Air Basin. The project site 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 (Figure 3.2-2). 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 3.2-1 shows pollutant levels, the state and federal standards, and the number of exceedances recorded at the Los Angeles-North Main Street Monitoring Station from 2011 to 2013. State and/or national exceedances of the ambient air quality standards were recorded for 8-hour O_3, 1-hour NO_2, and 24-hour $PM_{2.5}$.

[2] Western Regional Climate Center, *Historical Climate Information,* available at http://www.wrcc.dri.edu, accessed June 23, 2014.

[3] Ibid.



SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999.

LEGEND:

Los Angeles Monitoring Station

PROJECT ALIGNMENT:

Elysian Park

Downtown

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

0 4.5 9.0 18 Miles

Figure 3.2-2
Air Quality Monitoring Locations

Table 3.2-1
Ambient Air Quality Data

Pollutant	Pollutant Concentration & Standards	2011	2012	2013
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.09	0.09	0.08
	Days > 0.09 ppm (State 1-hr standard)	0	0	0
	Maximum 8-hr Concentration (ppm)	0.07	0.08	0.07
	Days > 0.07 ppm (State 8-hr standard)	0	2	0
	Days > 0.075 ppm (National 8-hr standard)	0	1	0
Carbon Monoxide (CO)	Maximum 8-hr concentration (ppm)	2.4	1.9	n/a
	Days > 9.0 ppm (State 8-hr standard)	0	0	n/a
	Days > 9 ppm (National 8-hr standard)	0	0	n/a
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.11	0.08	0.09
	Days > 0.18 ppm (State 1-hr standard)	0	0	0
	Days > 0.100 ppm (National 1-hr standard)	1	0	0
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration (µg/m^3)	120	91	75
	Days > 50 µg/m^3 (State 24-hr standard)	9	43	20
	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)	49	59	43
	Exceed State Standard (12 µg/m^3)	Yes	Yes	Yes
	Days > 35 µg/m^3 (National 24-hr standard)	4	4	1
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 June 23, 2014.

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. The California Air Resources Board (CARB) has identified the following groups who are most likely to be affected by air pollution: children under 14, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. Typically, sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Many of the sensitive receptors discussed above are located within one-quarter mile (1,320 feet) of the approximately two-mile Elysian Park WRP alignment and the approximately 16-mile Downtown WRP alignment.

Sensitive receptors near the Elysian Park WRP include but are not limited to:

- Residences located along Dorris Place, Riverdale Avenue, and Blake Avenue
- Dorris Place Elementary School at 2225 Dorris Place

Sensitive receptors near the Downtown WRP include but are not limited to:

- Theresa Lindsay Senior and Medical Center at 4211 South Avalon Boulevard
- Twenty Eighth Street School at 2807 Stanford Avenue
- Residences on South Vermont Avenue
- University of Southern California
- Residences on San Pedro Street
- Residences on Olympic Boulevard

3.2.3 Regulatory Setting

Federal

Federal Clean Air Act

The Clean Air Act governs air quality in the United States, and is enforced by the USEPA. The USEPA is also responsible for establishing the National Ambient Air Quality Standards, which are required under the 1977 Clean Air Act and subsequent amendments. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The 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 the CARB.

As required by the Clean Air Act, National Ambient Air Quality Standards have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. Primary standards set limits to protect public health, including the health of at-risk populations such as people with pre-existing heart or lung disease (such as asthmatics), children, and older adults. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings. The Clean Air Act requires the USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for primary standards based on whether the National Ambient Air Quality Standards have been achieved. The primary federal standards are summarized in Table 3.2-2. The USEPA has classified the South Coast Air Basin as attainment for SO_2, maintenance for CO, NO_2, and PM_{10}, and nonattainment for O_3, $PM_{2.5}$, and Pb.

In addition to the criteria pollutants, the air toxics provisions of the Clean Air Act require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the Clean Air Act, the USEPA establishes National Emission Standards for Hazardous Air Pollutants. The list of hazardous air pollutants or “air toxics” includes specific compounds that are known or suspected to cause cancer or other serious health effects.

Table 3.2-2
State and National Ambient Air Quality Standards and Attainment Status for the South Coast Air Basin

Pollutant	Averaging Period	California		Federal	
		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	Maintenance
	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	12.0 µg/m^3	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	Maintenance	9 ppm (10 mg/m^3)	Maintenance
	1-hour	20 ppm (23 mg/m^3)	Maintenance	35 ppm (40 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	30 ppb (57 µg/m^3)	Attainment	53 ppb (100 µg/m^3)	Attainment
	1-hour	0.18 ppm (338 µg/m^3)	Attainment	100 ppb (188 µg/m^3	Maintenance
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m^3)	Attainment
	24-hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	3-hour	--	--	75 ppb (196 µg/m^3)	--
	1-hour	0.25 ppm (655 µg/m^3)	Attainment	--	--
Lead (Pb)	30-day average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	1.5 µg/m^3	Nonattainment
Visibility Reducing Particles	8-hour	Extinction of 0.07 per kilometer	n/a	No Federal Standards	
Sulfates	24-hour	25 µg/m^3	Attainment		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	n/a		

n/a = not available
Source: CARB, *Ambient Air Quality Standards*, June 4, 2014; CARB, State Standard Area Designations, http://www.arb.ca.gov/desig/statedesig.htm; USEPA, The Green Book Nonattainment Areas for Criteria Pollutants, http://www.epa.gov/air/oaqps/greenbk/index.html.

State

California Clean Air Act

In addition to being subject to the requirements of federal Clean Air Act, air quality in California is also governed by more stringent regulations under the California Clean Air Act. In California, the California Clean Air Act is administered by the CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting the state requirements of the Clean Air Act, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards. The California Clean Air Act, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. The California Ambient Air Quality Standards 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, and 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 3.2-2.

The California Clean Air Act requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the California Ambient Air Quality Standards have been achieved. Under the California Clean Air Act, areas are designated as non-attainment 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 California Clean Air Act, the Los Angeles County portion of the South Coast Air Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}.[4]

Toxic Air Contaminant Identification and Control Act

The public's exposure to TACs is a significant public health issue in California. CARB's statewide comprehensive air toxics program was established in the early 1980s. 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".[5] 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.

[4] CARB, *Area Designation Maps*, available at http://www.arb.ca.gov/desig/adm/adm.htm, accessed July 1, 2014.
[5] California Health and Safety Code Section 39666(f).

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 determine if a substance should be formally identified as a TAC in California. During this process, CARB and the Office of Environmental Health Hazard Assessment draft a report that serves as the basis for this determination. CARB assesses the potential for human exposure to a substance and the Office of Environmental Health Hazard Assessment evaluates the health effects. After CARB and the Office of Environmental Health Hazard Assessment hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel, who reviews the report for its scientific accuracy. If the panel approves the report, they develop specific scientific findings that are officially submitted to CARB. CARB 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 Board 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 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.

CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, the CARB 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 Board 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.

Regional and Local

Lewis-Presley Air Quality Management Act

The 1977 Lewis Air Quality Management Act created the SCAQMD to coordinate air quality planning efforts throughout southern California. It 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 South Coast Air Basin, including the project site.

Air Quality Management Plan

All areas designated as nonattainment under the California Clean Air Act are required to prepare plans showing how the area would meet the California Ambient Air Quality Standards by its attainment dates. The Air Quality Management Plan (AQMP) is the SCAQMD plan for improving regional air quality. It addresses Clean Air Act and California Clean Air Act requirements and demonstrates attainment with federal and state ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments. The AQMP provides policies and control measures that reduce emissions to attain both National Ambient Air Quality Standards and California Ambient Air Quality Standards by their applicable deadlines. Environmental review of individual projects within the South Coast Air 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.

The 2012 AQMP was adopted in December 2012 and continues 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 includes demonstration of attainment of the federal 24-hour $PM_{2.5}$ in the South Coast Air Basin through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the USEPA approved 8-hour O_3 control plan with new commitments for short-term NO_X and VOC reductions. The 2012 AQMP also addresses several state and federal planning requirements.

The 2012 AQMP builds upon the approach taken in the 2007 AQMP, for the attainment of federal PM and O_3 standards, and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the Clean Air Act.

Rule 402

The SCAQMD has established various rules to manage air quality in the South Coast Air Basin. Rule 402 (Nuisance) states that a person should not emit air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403

Rule 403 (Fugitive Dust) controls fugitive dust through various requirements including, but 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 project site, and maintaining effective cover over exposed areas.

3.2.4 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not conflict with or obstruct implementation of the applicable AQMP or create objectionable odors. Accordingly, these issues are not further analyzed in the EIR.

Pursuant to the CEQA Guidelines, the proposed project would have a significant effect on air quality if it would:

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or
- Expose sensitive receptors to substantial pollutant concentrations.

Methodology

This air quality analysis is consistent with the methods described in the SCAQMD CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality Handbook, as provided on the SCAQMD website. Construction emissions were estimated using the emissions factors and emission rates obtained from Appendix D - the Data Tables used by California Emissions Estimator Model (CalEEMod) version 2013.2.2. The emission factors used within CalEEMod were obtained from the OFFROAD model for equipment exhaust, EMFAC2011 for on-road vehicles, and USEPA AP-42 Emission Factors.

Localized impacts from on-site daily emissions associated with construction were evaluated for sensitive receptor locations potentially impacted by construction activities. Emissions for localized construction air quality analysis for NO_2, CO, $PM_{2.5}$, and PM_{10} were compiled using the Localized Significance Threshold (LST) methodology promulgated by the SCAQMD in *Sample Construction Scenarios for Projects Less than Five Acres in Size*. Localized on-site emissions were calculated using similar methodology to the regional emission calculations.

Upon completion of construction activities, the proposed project would not include any new operational activities. There would be no increase in operational emissions. Therefore, the thresholds and associated analysis focuses on construction emissions.

Impact Analysis

AIR-1 *The proposed project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, this impact would be less than significant.*

Regional Emissions

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 South Coast Air 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.

Regional emissions were estimated based on construction information provided by LADWP for the proposed project. Detailed information, including equipment activity, truck trips, and worker vehicle trips are provided in Appendix C of this EIR. The appendix also includes emission rates for off- and on-road equipment. Table 3.2-3 shows the maximum daily emissions associated with each construction year for the Elysian Park WRP and the Downtown WRP, including the proposed pressure regulator station. Maximum daily emissions would not exceed the SCAQMD regional thresholds. Therefore, the proposed project would result in a less than significant impact related to regional construction emissions.

Table 3.2-3
Regional Construction Emissions

Construction Year	Maximum Pounds Per Day					
	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
Year 2015 (Elysian Park WRP)	1	9	8	<1	3	3
Year 2016 (Elysian Park WRP)	1	11	9	<1	3	3
Year 2017 (Elysian Park WRP)	2	24	19	<1	2	2
Year 2018 (Elysian Park WRP)	2	24	16	<1	2	3
Year 2019 (Elysian Park WRP)	1	20	11	2	1	1
Year 2019 (Downtown WRP - Pressure Regulator Station)	2	21	17	<1	<1	1
Year 2020 (Downtown WRP)	1	15	9	<1	<1	<1
Year 2021 (Downtown WRP)	1	9	7	<1	<1	<1
Maximum Daily Total [a]	3	41	28	2	1	1
REGIONAL SIGNIFICANCE THRESHOLD	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	No	No	No	No	No

[a] Maximum emissions occur in 2019

Source: Terry A. Hayes Associates, Inc. (TAHA), 2015.

Local Emissions

Construction activity would generate on-site pollutant emissions associated with equipment exhaust and fugitive dust. The SCAQMD has developed localized significance thresholds to determine the potential for on-site project activity to expose adjacent sensitive receptors to significant pollutant concentrations. These thresholds were designed to identify potential health-related impacts from construction activity. The impact determination is site specific and overlapping emission from various project components is not relevant. Therefore, the localized emissions presented in Table 3.2-4 show the maximum daily emissions for each relevant construction component. The Localized Significance Thresholds were based on a 1-acre project site and a 25-meter receptor distance. Maximum emissions would not exceed the SCAQMD Localized Significance Thresholds. Therefore, the proposed project would result in a less than significant impact related to localized concentrations.

Table 3.2-4
Localized Construction Emissions

Construction Component	Pounds Per Day			
	NO_X	CO	$PM_{2.5}$	PM_{10}
Elysian Park WRP	24	19	2.6	2.8
Downtown WRP Pressure Regulator Station	9	7	<1	<1
Downtown WRP	9	7	<1	<1
LOCALIZED SIGNIFICANCE THRESHOLD	**74**	**680**	**3**	**5**
Exceed Threshold?	No	No	No	No

Source: TAHA, 2015.

AIR-2 *The proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is classified as nonattainment under the National Ambient Air Quality Standards or California Ambient Air Quality Standards. The proposed project would not exceed any of the SCAQMD project-level significance thresholds for air quality. Therefore, this impact would be less than significant.*

Because the South Coast Air Basin is designated as a state and/or federal nonattainment air basin for O_3, $PM_{2.5}$, PM_{10}, NO_2, and Pb, 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. The SCAQMD has indicated that the project-level thresholds may be used as an indicator defining if project emissions would contribute to the regional cumulative impact. As discussed under AIR-1 above, emissions would not exceed the SCAQMD significance thresholds, and the proposed project would not contribute to a cumulative impact. Therefore, the proposed project would result in a less than significant impact related to cumulative emissions.

AIR-3 *The proposed project would not expose sensitive receptors to substantial pollutant concentrations. Off-road equipment used during construction of the proposed project would generate diesel particulate matter. However, these emissions would occur only during construction. Sensitive receptors would not be exposed to concentrations exceeding the applicable thresholds. This impact would be less than significant.*

The greatest potential for TAC emissions and air toxics during construction would be diesel PM emissions associated with heavy equipment operations. The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC and air toxic emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determines the exposure of sensitive receptors to TAC emissions and air toxics, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed project. The use of construction equipment would be limited to an approximate total duration of 42 months for the Elysian Park WRP and approximately 30 months for the Downtown WRP. In addition, local exposure would range from weeks to months as construction activity travels along the alignment. Construction activity would not occur with intensity and duration in any one localized area to significantly increase health risk. Therefore, the proposed project would not expose sensitive receptors to substantial pollutant concentrations of construction emissions.

Installation of the recycled water pipeline would restrict street parking and require closure of up to two roadway lanes. Consequently, traffic flow would be affected whenever a mixed-flow traffic lane would be closed for construction activities. Reduced speeds through construction zones would result in additional localized concentrations. Traffic congestion would lessen as some automobile travelers would re-route to parallel streets when lane closures would occur. The proposed project is not projected to substantially increase traffic congestion since road closures would be limited to off-peak periods. In addition, construction activities would be limited to short segments of public roads at one time to minimize long-term traffic disruption. Therefore, the

impact of localized air pollutant concentrations caused by reduced traffic flow would be less than significant.

3.2.5 Mitigation Measures

No significant impacts to air quality have been identified for the proposed project. Therefore, no mitigation measures are required.

3.2.6 Significance After Mitigation

Impacts to air quality would be less than significant without mitigation.

CHAPTER 3.3
BIOLOGICAL RESOURCES

This chapter evaluates existing biological resources at the project site (and surrounding areas as necessary) and potential impacts to those resources associated with implementation of the proposed project. Information in this chapter was gathered through literature review, examination of available databases, and field reconnaissance. The following analysis is based on the *Biological Reconnaissance Survey and Constraints Analysis for the Elysian Park-Downtown Water Recycling Projects*, prepared by AECOM in June 2014. This report is included as Appendix D of this EIR.

3.3.1 Environmental Setting

Vegetation

Elysian Park WRP

The vegetation communities within the Elysian Park WRP project area consist of three different vegetation types: non-native grassland, eucalyptus woodland, and ornamental vegetation/disturbed habitat. These vegetation types and dominant plant species found within them are described below. Figures 3.3-1a and 3.31b show the location of the vegetation communities within the Elysian Park WRP project area.

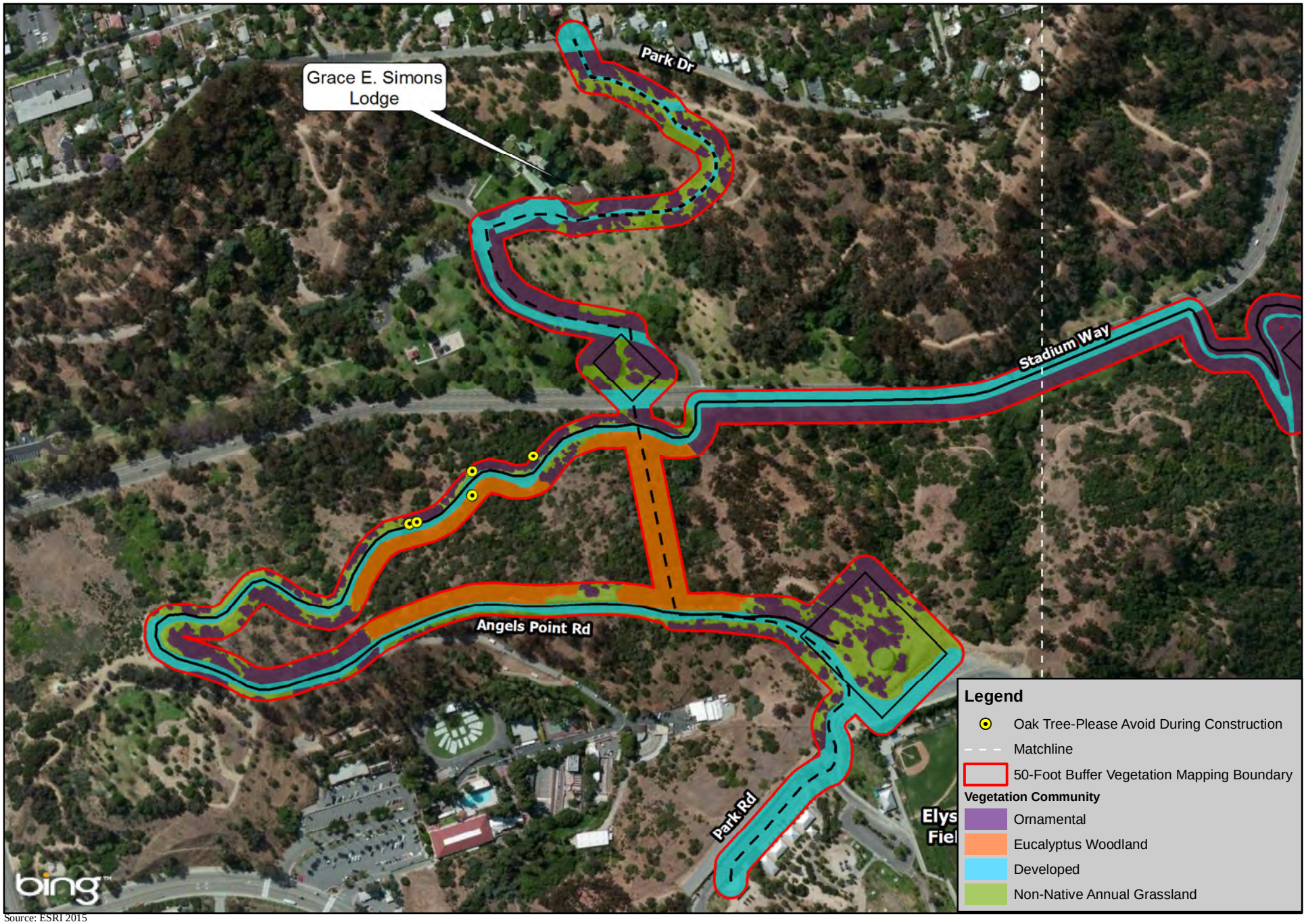
Non-Native Grassland

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 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*).

The portion of the Elysian Park WRP project area consisting of non-native grassland is primarily located within Elysian Park along Angel's Point Road in the area of the recycled water pipeline alignment, the hilltop near Elysian Fields in the area of the proposed recycled water storage tank, and along Park Road adjacent to the potable water pipeline alignment.

Eucalyptus Woodland

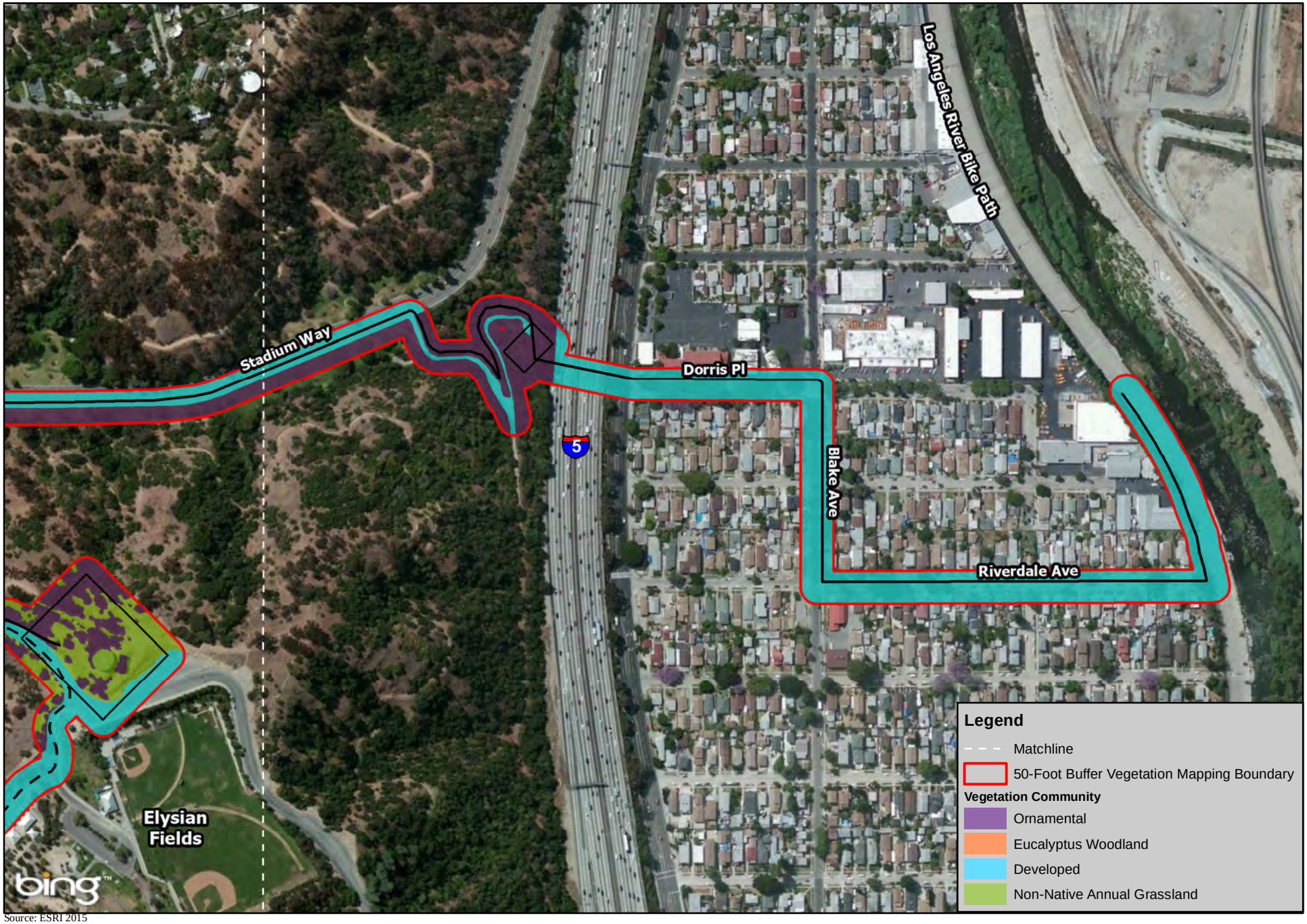
Eucalyptus habitats vary from a single species thicket to a mixed species thicket with little or no shrubby understory. Eucalyptus thickets can also consist of scattered trees with a well developed herbaceous or shrubby understory. In many instances, eucalyptus forms a dense stand with a closed canopy. 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.



Source: ESRI 2015

0 250 500 Feet

Figure 3.3-1a
Elysian Park WRP Vegetation Map
Elysian Park/Downtown WRP



Source: ESRI 2015

0 250 500 Feet

Figure 3.3-1b
Elysian Park WRP Vegetation Map
Elysian Park/Downtown WRP

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.

The portion of the Elysian Park WRP project area consisting of eucalyptus woodland is primarily located within Elysian Park in the area of the vegetated hillside in which the proposed 2-inch potable water service line would be installed.

Ornamental Vegetation/Disturbed Habitat

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.

Non-native and ornamental species 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, castor bean (*Ricinus communis*), a variety of palm species (*Washingtonia* sp. and *Phoenix* sp.), Sydney golden wattle, aleppo pine (*Pinus halepensis*), Canary island pine (*Pinus canariensis*), Peruvian pepper tree (*Shinus molle*), poison oak, rip-gut brome, blue elderberry, and a variety of non-native grasses and annuals.

Native species 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 portions of the Elysian Park WRP project area consisting of ornamental/disturbed habitat primarily include developed areas adjacent to roadways and the bike path, as well as areas within Elysian Park along the compacted dirt hiking trails, in the area of the proposed recycled and non-potable water pumping stations and forebay tanks, the hilltop near Elysian Fields in the area of the proposed recycled water storage tank, and along Angel's Point Road.

Downtown WRP

The project area for the Downtown WRP is located within public streets in urbanized and fully developed communities within the City. Species observed adjacent to the proposed pipeline route are primarily non-native or ornamental, including: pine, eucalyptus, palm, Italian cypress (*Cupressus sempervirens*), Chinese banyan (*Ficus macrocarpa*), and Jacaranda (*Jacaranda mimosifolia*). In the vicinity of the proposed pressure regulator station in San Fernando Road south of Loosmore Street, it is dominated by non-native and ornamental species, including: pine, eucalyptus, palm, and Italian cypress (*Cupressus sempervirens*).

Common Wildlife

Elysian Park WRP

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 within Elysian Park in the vicinity of the proposed components provide habitat for a variety of nesting birds and potential habitat for certain species of roosting bats.

Twelve species of bird were observed during reconnaissance surveys 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.

Downtown WRP

Two species of bird were observed during the reconnaissance surveys and are typically associated with highly developed, urban settings. These species were common raven and rock dove (*Columba livia*).

Sensitive Biological Resources

Literature reviews were conducted prior to field surveys to determine sensitive plant species, vegetation communities, and wildlife species known to exist in the project vicinity to determine the potential for sensitive species and communities to occur in the Elysian Park WRP and Downtown WRP project areas. The California Natural Diversity DataBase and the California Native Plant Society *Inventory of Rare and Endangered Plants* were reviewed for any information on known occurrences of sensitive species and communities within the Los Angeles and Hollywood U.S. Geological Survey (USGS) topographic quadrangles.

Sensitive Botanical Resources

Sensitive plants include those listed as threatened or endangered, proposed for listing, or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) or those listed by the California Native Plant Society (CNPS). Based on the literature reviews, 26 sensitive plant species and 3 sensitive plant communities were identified as having the potential to occur in the vicinity of the project sites. Only one sensitive plant is reported to have occurred within the project area. Greata's aster (*Symphyotrichum greatae*) is reported to have occurred in Elysian Park. The source of the reported occurrence is a collection from 1932, mapped as a best guess to be in the Elysian Park area. However, no sensitive plant species, including Greata's aster, or plant communities were observed during field surveys, nor are they likely to occur within the project site. The sensitive botanical resources having potential to occur in the project vicinity are listed in Table 3.3-1.

Table 3.3-1
Sensitive Plant Species and Plant Communities Potentially Occurring in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Plants			
marsh sandwort *Arenaria paludicola*	USFWS: FE CDFW: SE CNPS: List 1B.1	Found in marshes and swamps. Elevation 10-170 meters. Blooms May-August.	Not Expected. The project site does not contain suitable habitat for this species. The only reported occurrence in the vicinity of the project site was in 1900 in the community of Cienega.
Braunton's milk-vetch *Astragalus brauntonii*	USFWS: FE CDFW: 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 near Elysian Fields contains marginally suitable habitat for this species, however, the species has not been reported in the vicinity of the project site for 100 years. The last reported occurrences of Braunton's milk-vetch in the vicinity of the project site were in 1908 in the foothills above West Hollywood (now presumed extirpated), and a possible collection in the vicinity of Cienega in 1904.
Ventura marsh milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	USFWS: None CDFW: None CNPS: List 1B.1	Perennial herb associated with coastal dunes, coastal scrub, and marshes and swamps. Elevation 1-35 meters. Blooms June-October.	Not Expected. The project site does not contain suitable habitat for this species.
coastal dunes milk-vetch *Astragalus tener* var*. titi*	USFWS: FE CDFW: 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 project site does not contain suitable habitat for this species.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
round-leaved filaree *California macrophylla*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
Catalina mariposa lily *Calochortus catalinae*	USFWS: None CDFG: None CNPS: List 4.2	Perennial bulbiferous herb associated with chaparral habitat, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 15-700 meters. Blooms February-June.	Low. This species was not observed during the field survey and only marginally suitable habitat is present within the project site.

Table 3.3-1
Sensitive Plant Species and Plant Communities Potentially Occurring in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Plummer's mariposa lily *Calochortus plummerae*	USFWS: None CDFW: None CNPS: List 4.2	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 near Elysian Fields 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 project site for almost 100 years. The last reported occurrences of Plummer's mariposa lily in the vicinity of the project site 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 CDFW: 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 project site does not contain suitable habitat for this species.
Lewis' evening-primrose *Camissoniopsis lewisii*	USFWS: None CDFG: None CNPS: List 3	Annual herb found on sandy or clay substrates associated with coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Elevation 0-300 meters. Blooms March-June.	Low. This species was not observed during the field surveys and only marginally suitable habitat is present within the project site.
southern tarplant *Centromadia parryi* ssp. *Australis*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
monkey-flower savory Clinopodium mimuloides	USFWS: None CDFW: None CNPS: 4.2	Perennial herb found in mesic habitat associated with chaparral and north coast coniferous forests. Elevation 305-1800 meters. Blooms June-October.	Not Expected. The project site does not contain suitable habitat for this specie
Small-flowered morning glory *Convolvulus simulans*	USFWS: None CDFW: None CNPS: 4.2	Annual herb associated with open chaparral habitats, coastal scrub, and valley and foothill grassland. Elevation 30-700 meters. Blooms March-July.	Low. This species was not observed during the field surveys and only marginally suitable habitat is present within the project site.
many-stemmed dudleya *Dudleya multicaulis*	USFWS: None CDFW: None CNPS: 1B.2	Found in heavy, often clayey soils or grassy slopes. Associated with chaparral, coastal scrub, and valley	Not Expected. The project site does not contain suitable habitat for this species.

Table 3.3-1
Sensitive Plant Species and Plant Communities Potentially Occurring in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
		and foothill grassland. Elevation 0-790 meters. Blooms April-July.	
Los Angeles sunflower *Helianthus nuttallii* ssp. *Parishii*	USFWS: None CDFW: None CNPS: 1A	Known from both coastal salt and freshwater marshes and swamps.	Not Expected. The project site does not contain suitable habitat for this species.
mesa horkelia *Horkelia cuneata* ssp. *Puberula*	USFWS: None CDFW: 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 near Elysian Fields 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 project site for 90 years. The last reported occurrences of mesa horkelia in the vicinity of the project site were in 1902 in Garvanza, and in 1918 in Griffith Park.
southern California black walnut *Juglans californica*	USFWS: None CDFW: None CNPS: 4.2	Perennial deciduous tree found in alluvial soils associated with chaparral, cismontane woodlands, and coastal scrub. Elevation 50-900 meters. Blooms March-August.	Low. This species was observed southwest of the project site. However, only marginally suitable habitat is present within the project site.
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	USFWS: None CDFW: None CNPS: 4.3	Found in dry soils within chaparral or coastal shrub habitat. Elevation 1 to 885 meters.	Low. This species was not observed during the field surveys and only marginally suitable habitat is present within the project site.
Orcutt's linanthus *Linanthus orcuttii*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
Gambel's water cress *Nasturtium gambelii*	USFWS: Endangered CDFW: 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 project site does not contain suitable habitat for this species.
prostrate vernal pool navarretia *Navarretia prostrate*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.

Table 3.3-1
Sensitive Plant Species and Plant Communities Potentially Occurring in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Hubby's phacelia *Pacelia hubbyi*	USFWS: None CDFW: None CNPS: 4.2	An annual herb found in gravelly, rocky, talus substrates. Associated with chaparral, coastal sage scrub, and valley and foothill grassland. Elevation 0-1000 meters. Blooms April-July.	Low. This species was not observed during the field surveys and only marginally suitable habitat is present within the project site.
white rabbit-tobacco *Pseudognaphalium leucocephalum*	USFWS: None CDFW: 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 near Elysian Fields 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 project site for more than 80 years. The last reported occurrence of white rabbit-tobacco in the vicinity of the project site was in 1925 in the general area of Pasadena.
Parish's gooseberry *Ribes divaricatum* var. *parishii*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
San Bernardino aster *Symphyotrichum defoliatum*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
Greata's aster *Symphyotrichum greatae*	USFWS: None CDFW: 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 near Elysian Fields 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 project site for more than 75 years. The last reported occurrences of Greata's aster in the vicinity of the project site were in 1902 in Arroyo Seco, near Garvanza, and in 1932 in Elysian Park.

Table 3.3-1
Sensitive Plant Species and Plant Communities Potentially Occurring in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Vegetation Communities			
California walnut woodland	N/A	N/A	Not Expected. Not observed during field surveys.
southern sycamore alder riparian woodland	N/A	N/A	Not Expected. Not observed during field surveys.
walnut forest	N/A	N/A	Not Expected. Not observed during field surveys.

[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 Wildlife (CDFW):
State Threatened (ST), State Endangered (SE), State Species of Special Concern (CSC), State Rare (SR), State Fully-Protected (SFP), Watch List (WL), 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)

Sensitive Wildlife Resources

Sensitive wildlife species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and/or CDFW, or considered special status by CDFW. Sensitive habitats are those that are regulated by USFWS, U.S. Army Corps of Engineers, and/or those considered sensitive by the CDFW. Based on the literature reviews, 13 wildlife species were identified as having the potential to occur in the vicinity of the project site. No sensitive wildlife are known to occur at the project site. Trees and palms within the Elysian Park WRP project area provide marginally suitable roosting habitat for hoary bats (*Lasiurus cinereus*). However, no sensitive wildlife species were detected during field surveys, and no sensitive species are likely to occur at the project site. The sensitive wildlife species having potential to occur within the project vicinity are listed in Table 3.3-2.

Table 3.3-2
Sensitive Wildlife Species Having Potential to Occur in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Insects			
Buck's gallmoth *Carolella busckana*	USFWS: None CDFW: 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 CDFW: 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 project site does not contain suitable habitat for this species.
Birds			
burrowing owl *Athene cunicularia*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.
southwestern willow flycatcher *Empidonax traillii extimus*	USFWS: FE CDFW: SE	Utilizes riparian woodlands in southern California	Not Expected. The project site does not contain suitable habitat for this species.
coastal California gnatcatcher *Polioptila californica californica*	USFWS: FT CDFW: CSC	A permanent resident of coastal sage scrub in arid washes, mesas, and slopes.	Not Expected. The project site does not contain suitable habitat for this species.
bank swallow *Riparia riparia*	USFWS: None CDFW: ST	A colonial nester requiring vertical banks/cliffs with fine-textured or sandy soils near streams, rivers, lakes, or ocean. Most common in riparian and other lowland habitats west of the desert.	Not Expected. The project site does not contain suitable habitat for this species.
Least Bell's vireo *Vireo bellii pusillus*	USFWS: FE CDFW: SE	Summer resident of southern California in low riparian habitat in the vicinity of water or in dry river bottoms.	Not Expected. The project site does not contain suitable habitat for this species.

Table 3.3-2
Sensitive Wildlife Species Having Potential to Occur in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
Mammals			
pallid bat *Antrozous pallidus*	USFWS: None CDFW: 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 project site does not contain rocky habitat suitable for this species. The area surrounding the project site within Elysian Park 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 24 miles east and 21 miles east of the project site, respectively.
western mastiff bat *Eumops perotis californicus*	USFWS: None CDFW: 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 Elysian Park WRP project area provide potentially suitable habitat. However, no cliffs are present and the only reported occurrences in the vicinity of the project area were from 1958 or earlier in the vicinities of La Verne and Glendora, approximately 26 miles southeast and 21 miles east of the project site, respectively.
hoary bat *Lasiurus cinereus*	USFWS: None CDFW: 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 Elysian Park WRP project 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 project area, respectively.
south coast marsh vole *Microtus californicus stephensi*	USFWS: None CDFW: CSC	Inhabits tidal marshes.	Not Expected. The project site does not contain suitable habitat for this species.
big free-tailed bat *Nycinomops macrotis*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.

Table 3.3-2
Sensitive Wildlife Species Having Potential to Occur in the Project Vicinity

Common Name *Scientific Name*	Sensitivity Status	General Habitat Description	Potential to Occur in the Project Site
American badger *Taxidea taxus*	USFWS: None CDFW: 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 project site does not contain suitable habitat for this species.

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 Wildlife (CDFW):
State Threatened (ST), State Endangered (SE), State Species of Special Concern (CSC), State Rare (SR), State Fully-Protected (SFP), Watch List (WL), No state status, but tracked by the California Natural Diversity DataBase or otherwise considered to be locally sensitive (CNDDB)

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 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 in geographically diverse settings, and especially in urban settings, for the sustenance of healthy and genetically diverse animal communities. At a minimum, they promote colonization of habitat and genetic variability by connecting fragments of like habitat and 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.

Elysian Park WRP

Several non-contiguous 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. However, Elysian Park contains suitable acreage for local terrestrial wildlife migration within the park.

Downtown WRP

Vegetation located along public streets within the Downtown WRP project area are primarily ornamental and support a variety species adapted to high levels of disturbance such as

common raven, house finch, house sparrow, mourning dove, and western-scrub jay, as indicated by the species observed during the biological reconnaissance surveys. However, there are no adjacent large open space areas bordering the Downtown WRP project site. Therefore, the Downtown WRP does not provide opportunity for wildlife migration.

3.3.2 Regulatory Setting

The following provides a general description of the applicable regulatory requirements for the project. Since no sensitive species or habitats were observed or likely to occur within the project site, consultation with USFWS or CDFW is not required.

Federal

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act, the USFWS has regulatory authority over projects that may affect the continued existence of a federally-listed terrestrial species. Under the Endangered Species Act, a permit to "take" a listed species is required for any project that may harm or harass an individual of that species. Section 10 of the Endangered Species Act governs the process for take permits with strictly non-Federal projects.

Take is defined under Section 9 of the Act as killing, harming, or harassment. Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Section 4(a)(3)(A) of the Endangered Species Act requires that, to the extent prudent and determinable, critical habitat be designated concurrently with the listing of a species as endangered or threatened. Section 3(5) of the Endangered Species Act defines critical habitat, in part, as areas within the geographical area occupied by the species "on which are found those physical and biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (III) specific areas outside the geographical area occupied by the species at the time it is listed, upon determination that such areas are essential for the conservation of the species." The USFWS is required to designate critical habitat pursuant to the Endangered Species Act. Therefore, critical habitat is the geographic area and habitat functions necessary for the recovery of the species.

Migratory Bird Treaty Act

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, Mexico, Japan, and Russia. Although no permit is issued under the Migratory Bird Treaty Act, if vegetation removal or other construction activities occur during the breeding season for raptors and other native birds, USFWS and CDFW require that surveys be conducted to locate active nests within the construction area. If active raptor or other native bird nests are detected, proposed project activities may be temporarily curtailed or halted within an established buffer zone. The proposed project must comply with the Migratory Bird Treaty Act.

State

California Endangered Species Act

Pursuant to the California Endangered Species Act, a permit from CDFW is required for projects that could result in the take of a State-listed threatened or endangered species. A take of a species, under the California Endangered Species Act, is defined as an activity that would directly or indirectly kill an individual of a species, but does not include "harm" or "harass" as included in the Federal ESA. As a result, the threshold for take under CESA is higher than under the Federal ESA (i.e., habitat modification is not necessarily considered take under CESA). The State has the authority to issue an incidental take permit under Section 2081 of the Fish and Game Code.

For species that are listed under both the federal Endangered Species Act and California Endangered Species Act, a federal Section 7 "take" authorization can potentially also suffice for a California Endangered Species Act incidental take permit, if CDFW finds that the Section 7 consultation is consistent with the requirements of California Endangered Species Act. If CDFW determines that additional protective measures are needed, those conditions would be specified under a separate State take permit. CDFW is also concerned with the protection of species listed as California Species of Special Concern and plants considered rare, threatened, or endangered by the CNPS. Though these species are not legally protected under California Endangered Species Act, impacts to them are generally considered significant under CEQA.

Local

City of Los Angeles Tree Ordinance

Section 17.02 of the Los Angeles Municipal Code (LAMC) protects the following Southern California native tree species, which measures 4 inches or more in cumulative diameter, 4.5 feet above the ground level at the base of the tree:

a) Oak trees, including Valley Oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or any tree of the oak genus indigenous to California but excluding Scrub Oak (*Quercus dumosa*);

b) Southern California Black Walnut (*Juglans californica* var. *californica*);

c) Western Sycamore (*Plantanus racemosa*)

d) California Bay (*Umbellularia californica*)

Relocation or removal of any protected trees is prohibited without a permit or exemption from the Board of Public Works or its designated office or employee. Removal includes any act which would cause a protected tree to die, including but not limited to acts which inflict damage upon the root system or other part of the tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling in the drip line area around the trunk of the tree.

City of Los Angeles Urban Forest Program Tree Care Policy

The LARAP Urban Forest Program provides direction for the care of trees within City parkland. LARAP 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.

3.3.3 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS; would not have a substantial adverse effect on federally protected wetlands through direct removal, filling, hydrological interruption, or other means; or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Accordingly, these issues are not further analyzed in the EIR.

Per the CEQA Guidelines, the proposed project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Impact Analysis

BIO-1: *The proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service. Vegetation removal during construction could affect migratory birds. Mitigation is required to ensure a less than significant impact.*

Sensitive Botanical Resources

Elysian Park WRP

The Elysian Park WRP project site includes developed, disturbed, and non-native habitat that does not present quality habitat for sensitive plant species. As previously discussed, Greata's

aster is reported to have occurred in Elysian Park in 1932. However, it was not observed in the 2013 botanical 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. Therefore, no sensitive plants are expected to occur, and none were observed during the biological field surveys. Additionally, the Elysian Park WRP project site did not contain any sensitive plant communities.

Downtown WRP

The Downtown WRP project site is fully developed and located within public streets. No sensitive plants were observed during biological field surveys and none are expected to occur. Additionally, no sensitive plant communities were observed or are likely to occur within the Downtown WRP project site.

No impact to sensitive botanical resources would occur under either the Elysian Park WRP or the Downtown WRP.

Sensitive Wildlife Species

Elysian Park WRP

Trees and palms within the Elysian Park WRP project site provides marginally suitable roosting habitat for hoary bats (*Lasiurus cinereus*). However, the probability for sensitive species of bat to occur is low, and no sensitive wildlife species were observed during field surveys.

Downtown WRP

The Downtown WRP project site does not contain any sensitive wildlife species or habitat.

Migratory Birds

The project sites for the Elysian Park WRP, Downtown WRP, and adjacent areas contain bridges, mature trees, other vegetation, and structures that are suitable for use by migratory birds. In accordance with the requirements of the Migratory Bird Treaty Act, 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), significant impacts to these bird species could occur.

Elysian Park WRP

Vegetation trimming and/or removal may be required in order to accommodate construction vehicles and equipment. USFWS requires that surveys be conducted to locate active nests within the construction area. If active raptor or migratory bird nests are detected, project activities may be temporarily curtailed or halted. In the event that vegetation clearance would occur during the nesting/breeding bird season, mitigation measure BIO-A would be required for the Elysian Park WRP to reduce impacts to migratory birds to a less than significant level.

Downtown WRP

Due to the urban nature of the Downtown WRP, the majority of birds likely to nest within vegetation or on structures adjacent to the developed alignment would already be tolerant of frequent vehicular and pedestrian presence; indirect impacts to nesting birds are therefore not anticipated. Direct impacts to nesting birds are also not anticipated as the majority of the Downtown WRP alignment is located within public streets, and the project is not anticipated to require vegetation trimming. Nonetheless, should vegetation trimming be necessary during construction of the Downtown WRP, mitigation measure BIO-A would be required to ensure that impacts to migratory birds due to vegetation trimming or removal would be less than significant.

Additionally, the proposed recycled water pipeline would be hung below or along the side of the Olympic Boulevard Bridge. Bridges provide nesting habitat for numerous bird species. Implementation of mitigation measure BIO-A would ensure that impacts to birds nesting on the Olympic Boulevard Bridge would be less than significant.

BIO-2: *The proposed project would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

Elysian Park WRP

As discussed previously, Elysian Park is not part of a major contiguous linkage between two or more large areas of open space as it is separated from most of these areas by freeways and large roadways. However, Elysian Park does contain suitable acreage for local terrestrial wildlife migration within the park and to nearby areas.

Project construction would occur in portions of Elysian Park and would not impede movement throughout or within the park. Local wildlife movement may be restricted by construction zones, particularly in the locations of the proposed non-potable and recycled water pumping stations, forebay tank, and recycled water storage tank if construction fencing is used to demarcate the zone of construction and protect public safety. However, the majority of Elysian Park and connections to surroundings areas would not be affected, thereby allowing wildlife migration in other areas of the park to continue. As discussed in BIO-1 above, vegetation clearance occurring during the nesting/breeding season could impact migratory bird species. This impact would be mitigated to a less than significant level with implementation of mitigation measure BIO-A.

Downtown WRP

Vegetation located along public streets adjacent to the Downtown WRP are primarily ornamental and support a variety of species adapted to high levels of disturbance, as indicated by the species observed during the field surveys. However, there are no adjacent large open space areas bordering the Downtown WRP. Further, no vegetation removal would occur as part of the Downtown WRP construction. Therefore, the Downtown WRP does not provide opportunity for wildlife migration, and no impact would occur.

BIO-3: *The proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

Elysian Park WRP

The LARAP Urban Forest Program provides direction for the care of trees within City parkland. Coast live oaks located adjacent to and overhanging the proposed alignment for the Elysian Park WRP would be avoided as feasible. Should it be determined that trimming of these trees is necessary, a certified arborist would 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), and 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), LARAP 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.

California sycamores, southern California walnut, California bay, and toyon are present in outlying areas throughout the Elysian Park WRP project area. These species are considered Special Habitat Value Trees and are protected under the Native Tree Protection Ordinance. Before any alterations take place, which include damage, relocation, or removal, to Special Habitat Value Trees, a recommendation for action must be obtained from LARAP Arborists. The recommendation must be approved by the General Manager of LARAP or his/her designee before any action proceeds. Furthermore, all actions relating to pruning or removing blue elderberry or toyon must comply with all relevant components of LARAP'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 Elysian Park WRP. However, LARAP regulates protection of mature exotic park trees, referred to as Common Park Trees, under the Tree Preservation Policy. Ornamental trees along the proposed pipeline alignment may be considered Common Park Trees. Common Park Trees may be removed with the recommendation of the Forestry Arborist. With adherence to existing regulations and ordinances, impacts to protected trees would be less than significant for the Elysian Park WRP.

Downtown WRP

No tree removal would occur as part of the Downtown WRP because all activity would occur within public streets. Trees are located adjacent to, and may overhang, the proposed pipeline alignment. Individual specimens may require trimming to accommodate construction vehicles and equipment. However, trees protected by LA City Ordinances, Heritage Trees, Special Habitat Value Trees, and all other Common Park Trees were not observed along the proposed recycled water pipeline alignment for Downtown WRP. Additionally, no trees are located adjacent to the proposed site for the pressure regulator station. Therefore, no impact to protected trees would occur with implementation of the Downtown WRP.

3.3.4 Mitigation Measure

BIO-A 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:

Elysian Park WRP - Nesting bird 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 shall remove all flagging and allow construction activities to proceed.

Downtown WRP - If trimming of vegetation is necessary, a nesting bird survey shall be conducted no earlier than 3 days prior to the commencement of such activities. Additionally, no earlier than 3 days prior to the placement of the recycled water pipeline along or below Olympic Boulevard Bridge, a nesting bird survey of the bridge shall be conducted. 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 shall remove all flagging and allow construction activities to proceed.

3.3.5 Significance After Mitigation

With implementation of mitigation measure BIO-A, impacts to migratory birds would be less than significant.

CHAPTER 3.4
CULTURAL RESOURCES

A *Cultural Resources Assessment the Elysian Park-Downtown WRP* was prepared for the proposed project and is included as Appendix E of this EIR. Additionally, the development of a Historic Property Treatment Plan and a Discovery and Treatment Plan was necessary to mitigate potential impacts to historical and archaeological resources, respectively. The *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* is included as Appendix F of this EIR. Due to the sensitive nature of archaeological resources, and pursuant to California Government Code Section 6254.10, it is necessary to keep the *Discovery and Treatment Plan for the Elysian Park-Downtown WRP* as a confidential appendix not to be released to the public. As such, the Discovery and Treatment Plan is referred to as the "Confidential Appendix" throughout this chapter. This chapter summarizes the results and conclusions presented in these reports.

3.4.1 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 and is associated with a period known as the Millingstone Cultural Horizon. Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. Although many aspects of Millingstone culture persisted, by 3,500 years before present a number of socioeconomic changes associated with the period known as the Intermediate Horizon occurred. Increased populations in the region necessitated the intensification of existing terrestrial and marine resources. 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.

The Late Prehistoric period, from approximately 1,500 years before present to the mission era, is the period associated with the florescence of the contemporary Native American group known as the Gabrielino. 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. The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period 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.

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 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. 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. The village of Yaangna was located in the vicinity of present-day downtown Los Angeles.

Missions were established in the years that followed the Portola expedition. 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. On September 4, 1781, the Pueblo de la Reina de los Angeles was established near 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. 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.

By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased. Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew. Vineyards blanketed the landscape between present-day San Pedro Street and the Los Angeles River. Over 8,300 acres of land were being irrigated by the zanjas during the 1880s. However, 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.

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. 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.

As a result of growing population and the increasing diversion of water, the 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 irrigation ditches. When these measures proved insufficient, a more permanent solution to Los Angeles' water shortage was sought. 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.

History of the Project Area

Elysian Park

In 1883, City officials created Elysian Park on a 746-acre piece of land west of the Los Angeles River within a hill area known as the Rock Quarry Hills. 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. 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. Historically, Elysian Park has had an assortment of uses and currently still accommodates diverse needs.

In the early 20th century, the City Beautiful movement 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. 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.

In 1893, the Los Angeles Horticultural Society established the arboretum and botanical gardens within the park. In 1967, the Chavez Ravine Arboretum was declared Los Angeles City Historic-Cultural Monument 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.

The most controversial transition for Elysian Park was the land acquisition and construction for Dodger Stadium. In 1949, the Los Angeles City Council endorsed a public housing plan that would use federal money to construct 10,000 new housing units in 11 sites around Los Angeles. However, 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.

The Citizens Committee to Save Elysian Park was formed in 1965 in an attempt to thwart plans to develop the park. Prior to Citizens Committee to Save Elysian Park'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 Citizens Committee to Save Elysian Park is still active and has continued to slow development and preserve the Elysian Park lands as open space.

The Los Angeles Water System

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. 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 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.

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 usages, maintenance of the ditches, maintenance of the City dam, and even the early coordination of flood control work on the Los Angeles River.

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 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 gradually abandoned and, in some cases, dismantled. 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.

Los Angeles Streetcar Systems

Alameda Street was the first street in the City of Los Angeles to receive the streetcar system. Over time, the passenger lines were expanded and underwent numerous modifications as a result of changing franchises and owners. The lines were horse- or mule-powered in the beginning, but were gradually supplanted by cable cars in the early 1880s, and by competing electric cars in the latter part of the 1880s and the early 1890s. Eventually the Los Angeles Railway Company, also known as the "Yellow Cars," became the main streetcar system for central Los Angeles. The system operated until 1963, when it was gradually abandoned in favor of buses.

Southern Pacific Railroad

The Southern Pacific Railroad has its origins in the creation of the Central Pacific Railroad. In 1872, the Southern Pacific Railroad agreed to build its line through Los Angeles which gave it a monopoly on goods entering Los Angeles via Wilmington. By the 20th century, competition with local passenger lines and highways, and the rising popularity of the automobile, caused a loss of intra-California and interstate passenger service revenues.

To adapt to the new business environments, the railroad companies constantly reconfigured their operations in the 1930s and 1940s. In the 1950s, the Southern Pacific Railroad merged with the Southern Pacific Company, and then in the 1960s it became the Southern Pacific Transportation Company. Finally, in 1996, it merged with Union Pacific Railroad, and the great Southern Pacific Railroad, as an entity, was no more.

Los Angeles State Historic Park/Cornfield

The vicinity of the Los Angeles State Historic Park was developed for agricultural use in the Spanish and Mexican periods. Beginning in 1804, Francisco Avila established vineyards in this location. The area was served by the Zanja Madre, and a waterwheel was built just west of the current park land to divert water from the zanja.

In the latter portion of the 19th century, River Station, a Southern Pacific Railroad facility also known as Los Angeles Junction, was opened in this location. This facility opened in 1875 and served as an important transportation hub, with Southern Pacific opening a freight house and depot in this location. By the 1880s, Southern Pacific was the largest employer in Los Angeles. Southern Pacific continued to use the facility until 1992. In 2001, California State Parks took possession of the 32-acre parcel where the Southern Pacific facility had stood. In 2005, the former site of River Station was designated a State Historic Park.

Downtown Neighborhoods and Districts

The proposed project extends through numerous historic neighborhoods and areas surrounding downtown Los Angeles including the approximately 85-year old working class Elysian Valley/Frogtown neighborhood, Chinatown, Little Tokyo/Civic Center, Downtown/Civic Core, Pico and Figueroa, Exposition Park, the University of Southern California, and Boyle Heights. Historic descriptions for each of these areas are further detailed in Appendix E.

Existing Conditions

Records Search

Archival research for the proposed project was conducted on April 18, 19, 25, and 26, 2012, as well as April 9, 16 and 23, 2014, at the South Central Coastal Information Center housed at California State University, Fullerton. The two-year span for the records searches were due to project alignment revisions. The research focused on the identification of previously recorded cultural resources within a 0.25-mile radius of the project site. The archival research involved review of archaeological site records, historic maps and historic sites, and historic site and building inventories. Additional historic research to develop a historical context for the project area was conducted at a number of archival repositories and local agency archives. Archives searched include the Los Angeles Public Library, the USC digital archives, the Library of Congress electronic resources, and Navigate LA. Documents searched during the course of the research include book publications, historic newspaper articles, historic photographs, historic maps, and engineering plans.

Elysian Park WRP

The records search identified six cultural resource investigations that had previously been conducted within a 0.25-mile radius of the Elysian Park WRP. No archaeological sites had previously been recorded within a 0.25-mile radius of the Elysian Park WRP. No California Office of Historic Preservation historic resources or California Historical Landmarks are listed within 0.25 mile of the project area. Two landscape and built features within this study area have been designated as Los Angeles Historic-Cultural Monuments (LAHCMs) (see Table 3.4-1).

Table 3.4-1
Los Angeles Historic-Cultural Monuments within the Elysian Park WRP

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

Source: City of Los Angeles Department of Planning, Office of Historic Resources, Cultural Heritage Commission.

The Chavez Ravine Arboretum (LAHCM No. 48) 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. A portion of the Elysian WRP project site, including a segment of the potable water pipeline and potable water booster pump, is located within the arboretum.

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

Downtown WRP

The records search identified 75 cultural resource investigations overlapping with the Downtown WRP. Approximately 75 percent of the Downtown WRP had previously been assessed for cultural resources. The records search indicated that 18 archaeological sites had previously been recorded within the Downtown WRP footprint with two sites overlapping with the project area (see Table 3.4-2).

Table 3.4-2
Previously Recorded Archaeological Sites within the Downtown WRP

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Number	Description	Date Recorded
	186110		Union Pacific Railroad	06/22/1999
	186112		Union Pacific and Southern Pacific Railroad Segments	06/22/1999

Source: AECOM 2014

P-19-186110 is a portion of the Union Pacific Railroad Line and was recorded throughout the Los Angeles area. The portion intersecting with the Downtown WRP was recorded on the eastern edge of the Olympic Boulevard Bridge running north to south along the eastern edge of the Los Angeles River. The historic railroad was evaluated as eligible for the National Register of Historic Places under Criteria A and B.

P-19-186112 is an active segment of the Union Pacific Railroad and Southern Pacific Railroad, which intersects the project area on an overpass that crosses Vignes Street just to the north of Avila Street. The project area runs underneath the overpass and will not physically intersect with

the railroad segment. The historic railroad was evaluated as eligible for the National Register of Historic Places under Criteria A and B.

The records search also indicated that 43 historic building structures, or districts, were previously recorded within or adjacent to the Downtown WRP. Of these, four resources overlap with the Downtown WRP (Table 3.4-3): the Olympic Boulevard Bridge (P-19-180827), the Los Angeles Civic Center Historic District (P-19-190545), the Los Angeles Plaza Historic District (P-19-167020), and the Little Tokyo Historic District (P-19-167499). Additionally, these four resources are listed on or eligible for the National Register of Historic Places and the California Register of Historical Resources. Within the Downtown WRP, three resources are listed on the Los Angeles Historic-Cultural Monuments register (see Table 3.4-3). No California Office of Historic Preservation historic resources are listed within 0.25-mile of the project area.

Table 3.4-3
Previously Recorded Buildings, Structures, or Districts within the Downtown WRP

P-Number (P-19-)	Resource Name (Date)	Description	NRHP/CRHR Eligibility (Date)	LAHCM
167020	Los Angeles Plaza Historic District (1825)	Historic District	Listed on NRHP (1972)	No. 64
167499	Little Tokyo Historic District (1905-1942)	Commercial District	Eligible for NRHP (1986)	NA
180827	Olympic Boulevard Bridge; 2400-2600 Block of East Olympic Boulevard (1925)	Bridge	Eligible for NRHP (1996)	No. 902
190545	Los Angeles Civic Center Historic District (1925-1972)	Commercial District	Eligible for NRHP/CRHR (-)	NA
--	Granite Block Paving (Between Alameda and N. Main Street)/Bruno Street (1913)*	Paving	Not eligible	No. 211

* Resource location outside of project area but may extend into Alameda Street, or connect with a similarly paved portion of Alameda Street.
NRHP National Register of Historic Places
CRHR California Register of Historical Resources
Source: AECOM 2014

The Los Angeles Plaza Historic District (LAHCM No. 64) was referred to historically as “El Pueblo de Nuestra Señora la Reina de los Ángeles del Río de Porciúncula,” and was founded in 1781 by Felipe de Neve, California’s Spanish governor. This district is located in downtown Los Angeles and is bounded by Spring Street, Alameda Street, Arcadia Street and Cesar E. Chavez Avenue. The district has 31 contributing buildings and two non-contributing buildings and was the city center during Spanish, Mexican and eventually United States rule.

The Olympic Boulevard Bridge (LAHCM No. 902) is located within the Downtown WRP project site and is the Olympic Boulevard Bridge located at the 2400 to 2600 block of East Olympic Boulevard (Caltrans Bridge No. 53C0163). Built in 1925, this Beaux-Arts bridge was originally the Ninth Street Viaduct. It is a reinforced concrete open spandrel structure with three spans across the Los Angeles River and tracks of the Atchison, Topeka and Santa Fe Railroad. The bridge was designed by the City of Los Angeles Bureau of Engineering. It was renamed when Ninth Street was renamed Olympic Boulevard in honor of the 1932 Olympic Games in held Los

Angeles. The bridge was listed in the Historic American Engineering Record as CA-177 in 1996. The bridge has undergone substantial changes over the years including a seismic retrofit.

LAHCM 211 is a segment of granite-block street paving. The paving has been partially preserved along Bruno Street between Alameda and North Main Street (and running perpendicular from Alameda). The paving was installed in 1913 and is considered to be the best surviving example of this paving within downtown Los Angeles.

Cultural Resources Survey

Cultural resources field surveys for the Elysian Park WRP and Downtown WRP were conducted on May 8, 2012, April 2, 2013, and June 11, 2014. Areas surveyed included all accessible portions of the project area, including the locations of the proposed potable and recycled water pipelines, recycled and non-potable water pumping stations, and the forebay tank and recycled water storage tank within the Elysian Park WRP, and the entire alignment of the recycled water pipeline within the Downtown WRP. The cultural resources surveys included all archaeological investigations and the documentation of historic architectural and landscape resources. Details of the cultural resources survey are included in Appendix E.

Elysian Park WRP

Within the Elysian Park WRP project site, 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.

As previously discussed, Elysian Park (EWRP-H-001) was proposed in 1883 and dedicated in 1886 on a 746-acre piece of land west of the Los Angeles River. Reduced from its original size, Elysian Park is the last remaining large piece of the original Pueblo of Los Angeles public land grant. The park includes numerous components, some of which have been designated Los Angeles Historic Cultural Monuments (see Table 3.4-4), and others have been noted as points of interest associated with the park.

Table 3.4-4
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 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 Sanitorium	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

Table 3.4-4
Elysian Park Components

Monument or Point of Interest Name	Description and/or Designation Number	Date
Elysian Fields	Picnic area/baseball fields	Unknown
Elysian Maintenance Office	Park office	Unknown
Elysian Reservoir	LADWP reservoir located within park boundaries.	1903
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, California Historical Landmark No. 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 (LAHCM No. 48) was established in 1893 by the Los Angeles Horticultural Society with the planting of rare trees in the upper part of the ravine. 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. The grounds of the arboretum currently include two play structures, a restroom facility, a horseshoe pit, and individual and group picnic areas.

Downtown WRP

Within the Downtown WRP project site, the cultural resources survey identified two previously unknown archaeological resources: Spring Street/Cornfield Railroad Tracks (assigned temporary site number ELY2-H-001) and East Olympic Boulevard Historic Street Surface (ELY2-H-002). No historic resources were identified.

The Spring Street/Cornfield Railroad Tracks (ELY2-H-001) is comprised of five sets of railroad tracks that lie within the North Spring Street right-of-way between West Elmyra Street and West College Street. These track segments, consisting of iron rails and wooden ties, are approximately 5.5 feet wide and are truncated at their northern extent on the north side of

Spring Street at Los Angeles State Historic Park/Cornfields. Three tracks head south from the Cornfields, cross Spring Street, and appear to terminate at a vacant lot bordered by Spring Street, West College Street, and West Rondout Street. The remaining two sets of track continue approximately 50 feet south along North Spring Street, after which they are no longer visible at street surface. All five sets of track are obscured by asphalt pavement and truncated on at least one end.

Historic map research shows that the Southern Pacific Company freight house and switch yards were located southeast of San Fernando (now Spring Street) between Elmyra Street and Bruno Street, encompassing the vacant lot. In addition, the Southern Pacific mainline extended south from Spring Street along West Redondo (now West Rondout Street). Based on the available evidence, it is difficult to determine which sets of historic tracks are represented by ELY2-H-001; however, they are likely related to either the Southern Pacific mainline or the Southern Pacific switch yard and freight house.

The East Olympic Boulevard Historic Street Surface (ELY2-H-002) consists of cement concrete paving located on the eastbound and westbound sides of Olympic Boulevard. The historic road surface is visible in segments approximately 8 feet wide along the outer edges of the roadway. In many cases, the historic surface is paved over at intersections. Just east of Soto on the north side of the street, a stamp reading “GRIFFITH COMPANY 1930” is present in the cement concrete surface within the right westbound lane on Olympic Boulevard. Other elements associated with the historic-in-age street surface in this area include sidewalks, lampposts, and other elements of the streetscape. Nearby resources include the Wyvernwood Garden Apartments (established 1939), the Sears Roebuck and Company Mail Order Building (built 1927), and the Olympic Boulevard Bridge/Viaduct (built 1925).

A major proposal was debated in the late 1920s and 1930 regarding improvements to Tenth Street to turn it into a 100-foot wide east-west thoroughfare. It is possible that the paved street surface observed within the project area relates to this period of improvements. The street surface, which is historic in age, is overlaid with modern paving in the middle section of the street. Evidence of disturbance to the street surface includes trenching, repairs, additions of cross walks, and addition of modern paving in the center portion of the street.

Sacred Lands File Search

A Native American contact program was conducted 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 proposed project. Letters requesting a Sacred Lands File search were sent to the Native American Heritage Commission on April 18, 2012, April 9, 2013, and June 11, 2014. 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 Native American Heritage Commission 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, [and to] also, please note; the Native American Heritage Commission 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. Letters were mailed on April 27, 2012, to each group or individual provided on the contact list. 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; these responses are included in Appendix E.

The Native American Heritage Commission 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 Native American Heritage Commission 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. A second round of Native American contact letters describing the proposed project, including revisions to the original project description for the Elysian WRP, were mailed on April 23, 2013 to each group or individual provided on the contact list. Follow-up phone calls were made to each party on May 17, 2013. One response was received from the 10 parties and is included in Appendix E.

In addition, a third round of Native American contact letters were mailed on June 11, 2014. No written responses were received. However, follow-up phone calls were made to each individual on July 28, 2014. Phone call notes of these conversations are included in Appendix E.

Paleontological Records Search

A paleontological records search was conducted for the Elysian Park WRP and Downtown WRP by Dr. Samuel McLeod, Vertebrate Paleontology Division of the Natural History Museum of Los Angeles County on May 29, 2012 and on June 30, 2014. The records search indicated that there is one known vertebrate fossil locality that possibly lies within the Elysian Park WRP project area, a general Elysian Park locality. The locality (LACM 4967) is important as it is a holotype specimen of an extinct fossil fish, *Clupea tiejei*, which is likely associated with the late Miocene Upper Monterey Formation. In addition, other localities are known nearby and within the same sedimentary deposits that occur in the proposed project area for the Elysian Park WRP.

The Downtown WRP portion of the project area indicated that fossil localities have been recorded adjacent to or within the nearby vicinity of the project area but none have been recorded within the project area itself. The complete copy of this research is included in Appendix E.

Surficial deposits in most of the project site consist of younger Quaternary Alluvium resulting from the Los Angeles River that flows to the east of the project area. These sediments do not typically contain significant vertebrate fossils, but are underlain at relatively shallow depth by older Quaternary deposits, the Fernando Formation, the Unnamed Shale, or the Monterey Formation. All of which may contain significant vertebrate fossil remains should substantial excavations within the proposed project area extend below approximately 10 feet in depth.

3.4.2 Regulatory Setting

California Register of Historic Resources

A cultural resource is considered "historically significant" under CEQA if the resource meets one or more of the criteria for listing on the California Register. The California Register was designed to be used by state and local agencies, private groups, and citizens to identify existing cultural resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been

established for the California Register (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852). A resource is considered significant under CEQA if it:

1. 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;
2. Is associated with the lives of persons important to local, California, or national history;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
4. 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 California Register 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 an Los Angeles Historic-Cultural Monument 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.

3.4.3 Environmental Impacts

Thresholds of Significance

The CEQA Guidelines establish that a proposed project would have a significant effect on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

- Disturb any human remains, including those interred outside of formal cemeteries.

Impact Analysis

CR-1 *The proposed project would cause a substantial adverse change in the significance of a historical resource. The impact would be less than significant with implementation of mitigation.*

The project sites and a study area encompassing a 0.25-mile radius around the project sites 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. In addition, cultural resource surveys of the project sites were conducted.

Elysian Park WRP

Two resources were identified as overlapping with the Elysian Park WRP project area: Elysian Park itself and the Chavez Ravine Arboretum (LAHCM No. 48), which is located within Elysian Park.

Elysian Park derives its local and regional historical significance from its role as the first park in the City of Los Angeles. The significance of Elysian Park is at the local and state level. It is recommended eligible for the California Register of Historic Resources 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 Los Angeles for leisure and recreation activities. The portions of the park that are encompassed in the present project area 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 LAHCM No. 48.

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 formally 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. Therefore, modifications to the park and Chavez Ravine Arboretum would significantly impact these two historic resources.

A portion of the Elysian Park WRP project site, including a segment of the potable water pipeline and the potable water booster pump, would be located within the Chavez Ravine Arboretum. As previously discussed, the booster pump would be installed within an existing pump house. Nonetheless, mitigation measure CR-A would be implemented to preserve the arboretum landscape during construction. 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's Standards for the Treatment of Historic Properties* and as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* (see Appendix F). Implementation of mitigation and compliance with the treatment plan would ensure that impacts to this resource would be less than significant.

Additionally, the Elysian Park WRP portion of the proposed project would involve the construction of a new recycled water storage tank within the Elysian Fields area of Elysian Park. As such, installation of the recycled water tank would potentially affect the visual landscape of the park and result in a significant impact to historic resources. As discussed in Section 3.1 Aesthetics, mitigation measures VIS-A and VIS-B would be implemented to ensure that a neutral paint color, chosen in coordination with LARAP, would be used for the proposed new recycled water tank so as to blend with the surrounding park setting, would be screened from view with trees, shrubs or other vegetation, and would be carried out in compliance with the *Secretary of the Interior Standards for the Treatment of Historic Properties* and as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* (see Appendix F). With implementation of mitigation and compliance with the treatment plan, the impacts of the recycled water tank would be reduced to a less than significant level.

Lastly, the Elysian Park WRP involves installation of a forebay tank, and non-potable and recycled water pumping stations within Elysian Park, which would alter the park setting. The impact to historic resources would be significant. Mitigation measure CR-B 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 Elysian Park and would be carried out in compliance with the *Secretary of the Interior Standards for the Treatment of Historic Properties* and as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* (see Appendix F). With implementation of mitigation and compliance with the treatment plan, 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.

Downtown WRP

Four historic resources were identified as overlapping with the Downtown WRP project site. These include three historic districts (the Los Angeles Civic Center Historic District, P-19-190545; the Los Angeles Plaza Historic District, P-19-167020; and the Little Tokyo Historic District, P-19-167499) and the Olympic Boulevard Bridge (LAHCM No. 902, P-19-180827, Caltrans Bridge No. 53C0163). Additionally, although LAHCM No. 211 is located outside of the project site, the Granite Block Paving between Alameda Street and North Main Street/Bruno Street may extend into Alameda Street. However, implementation of the proposed project would only impact one historic resource, the Olympic Boulevard Bridge.

The Olympic Boulevard Bridge (LAHCM No. 902) is located along East Olympic Boulevard. Built in 1925, this Beaux-Arts bridge was originally the Ninth Street Viaduct. It is a reinforced concrete open spandrel structure with three spans across the Los Angeles River and tracks of the Atchison, Topeka and Santa Fe Railroad. The bridge was designed by the City of Los Angeles Bureau of Engineering. It was originally named the Ninth Street Bridge and was later

renamed Olympic Boulevard in honor of the 1932 Olympic Games held in Los Angeles. The bridge has undergone substantial changes over the years including a seismic retrofit. The Olympic Boulevard Bridge (also called viaduct) is eligible for listing in the National Register of Historic Places and California Register of Historic Resources. The bridge "…exhibits character-defining features of Beaux-Arts bridge design." It is also associated with notable engineer Merrill Butler and the structure has strong associations with the development of Los Angeles and the history of the Los Angeles River. While the proposed project would not impact the bridge's historical associations, placement of the recycled water pipeline along the side of the bridge would have a visual impact to the architectural elements that exemplify the Beaux-Arts style. Implementation of mitigation measure CR-C and compliance with the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* (see Appendix F) is required to reduce impacts to the Olympic Boulevard Bridge to a less than significant level.

CR-2 *The proposed project may potentially cause a substantial adverse change in the significance of an archaeological resource. The impact would be less than significant with mitigation.*

Elysian Park WRP

Based on the records search, no previously recorded archaeological sites are located within the Elysian Park WRP project site, and the field survey did not result in the discovery of any previously unknown archaeological resources. However, 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 Elysian Park WRP study area 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 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.

Construction activities, including trenching, could affect previously encounter undiscovered archaeological resources, including Native American cultural resources. As such, implementation of mitigation measure CR-D and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) would ensure that impacts related to the discovery of archaeological resources would be less than significant.

During construction of the Elysian Park WRP, 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 along Dorris Place. Research suggests that the historic location of a component of the Los Angeles *zanja* system, known as the Chavez Ditch, crosses the Elysian Park WRP alignment near the intersection of Riverside Drive and Dorris Place. In addition, the historic location of a Los Angeles Water Company ditch crosses the Elysian Park WRP project site south of I-5 near the proposed location of the recycled water pump station. Therefore, mitigation measure CR-E and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) would ensure that impacts to the Los Angeles *zanja* system would be less than significant.

Downtown WRP

The Downtown WRP lies almost entirely within paved public roadways of downtown Los Angeles and surrounding neighborhoods. The cultural resources assessment revealed several areas of archaeological sensitivity within the project area. In particular, there is a possibility for encountering historic archaeological resources, such as historic street surfaces, railroad tracks, and historic water conveyance features, especially those associated with the *zanja* system. In addition, project construction may also unearth buried sites related to prehistoric activities. Specifically, trenching and excavation of the launching and receiving zones could uncover previously recorded resources and unknown resources. Therefore, implementation of mitigation measure CR-D and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* are required. With implementation of mitigation, impacts would be reduced to a less than significant level.

Several past projects have encountered portions of features related to the Los Angeles *zanja* system, and in most cases, the segment(s) of the resource was documented and assessed as eligible or presumed eligible for listing in both the National Register of Historic Places and the California Register of Historic Resources. Because the system is large and mostly subsurface, it is not possible to know how intact the entire system remains. The proposed project has the potential to encounter the features related to the Los Angeles *zanja* system in approximately 18 locations. Therefore, the impact would be significant, and implementation of mitigation measure CR-E and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) are required. With implementation of mitigation, the impact would be reduced to a less than significant level.

CR-3 *The proposed project may potentially directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The impact would be less than significant with mitigation.*

Archival research indicates that surface or shallow excavations within the younger Quaternary Alluvium would not likely uncover significant vertebrate fossils. However, relatively shallow excavations, which extend down into older Quaternary deposits, the Fernando Formation, the Unnamed Shale, or the Monterey Formation deposits within the project site could encounter significant vertebrate fossils.

The records search indicated that there is one known vertebrate fossil locality that possibly lies within the Elysian Park WRP project site, a general Elysian Park locality. The locality is considered important as it is a holotype specimen of an extinct fossil fish, *Clupea tiejei*, which is likely associated with the late Miocene Upper Monterey Formation. In addition, other localities are known to occur nearby and within the same sedimentary deposits that occur in the Elysian Park WRP project site. The records search indicated that fossil localities have been recorded adjacent to or within the vicinity of the Downtown WRP project site; however, none have been recorded within the proposed alignment itself.

As previously discussed, surficial deposits underlying the proposed project primarily consist of younger Quaternary Alluvium resulting from the Los Angeles River that flows to the east of the project site. These sediments do not typically contain significant vertebrate fossils. However, these sediments are underlain at relatively shallow depth by older Quaternary deposits, the Fernando Formation, the Unnamed Shale, or the Monterey Formation, all of which may contain significant vertebrate fossil remains should substantial excavations within the project site extend below approximately 10 feet in depth. Most project excavation would not exceed 5 feet in depth

and fossil localities are not expected to be encountered. However, excavation of launching and receiving zones associated with microtunneling is anticipated to exceed 5 vertical feet. As such, any excavations at a depth greater than 5 feet would be located within sensitive formations potentially containing significant paleontological resources. Due to the potential to encounter paleontological resources during construction, the impact would be significant. With implementation of mitigation measure CR-F, the impact would be reduced to a less than significant level.

CR-4 *The proposed project may potentially disturb human remains, including those interred outside of formal cemeteries. However, adherence to applicable guidelines and procedures would ensure that impacts would be less than significant.*

Three formal (historic-era) cemeteries including Old Calvary Cemetery, City Cemetery, and Plaza Church Cemetery are known to occur within 0.25-miles of the project area. No formal cemeteries or other places of human internment are known to exist within the Elysian Park WRP or Downtown WRP project sites. No evidence of human remains was observed on the surface during site surveys (see Appendix E). In addition, as previously discussed in Section CR-2 above, a Sacred Lands File search and Native American contact program were conducted for the proposed project. Human remains are not expected to be encountered during construction. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate, including CEQA Guidelines Section 15064.5(e). If human remains are discovered, they would be evaluated by the county coroner as to the nature of the remains. If the remains are determined to be of Native American origin, the Native American Heritage Commission would be contacted and a Most Likely Descendent identified. Compliance with existing regulations would ensure a less than significant impact.

3.4.4 Mitigation Measures

CR-A 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, as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP (see Appendix F). 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 area. Lawn (grass) to be removed during trenching shall be replaced in the post-construction phase, to the extent feasible.

CR-B 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's Standards for the Treatment of Historic Properties*, as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP (see Appendix F). The forebay tank and station housing shall 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, including LARAP, shall be contacted to solicit input on the design of the forebay tank, and non-potable and recycled water pump stations.

CR-C To preserve the historic character and integrity of the Olympic Boulevard Bridge, the placement of the pipeline should follow the *Secretary of Interior's Standards for the Treatment of Historic Properties* (36CFR68.3), specifically, the guidelines and standards relating to rehabilitation of historic properties and as specified in the *Historic Property Treatment Plan for the Elysian Park-Downtown* WRP (see Appendix F). To meet these standards, it is recommended that the proposed pipeline be carried under the bridge where several pipes already exist, except for the areas from the approaches to each abutment, where the proposed pipeline shall be placed on the side of the bridge. When the pipeline reaches the area of the abutment, in order to avoid visual impacts to the spandrel, the proposed pipeline shall enter the superstructure of the bridge as the other pipes already do. The proposed pipeline shall be placed in such a way as to avoid intruding on the character-defining features or otherwise causing a visual disruption to the Beaux Arts character of the bridge. This shall include painting the proposed pipeline such that it does not impair the integrity of the bridge appearance. All clamps used for support shall be made so they are removable without any permanent damage. Further, the final project design as it relates to the Olympic Boulevard Bridge shall be reviewed prior to implementation by a specialist who meets the Secretary of the Interior standards for architectural historian or historic architect.

CR-D A qualified archaeological monitor shall be present on-site during ground-disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and receiving pits for microtunneling in areas of archaeological sensitivity as specified in the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix). The on-site archaeological monitor shall work under the direction of a qualified archaeological Principal Investigator. The on-site 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 project area, 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. 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, LADWP shall be notified immediately and work in the vicinity of the discovery shall be halted until appropriate treatment of the resource, as specified in the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) is determined by the qualified archaeological Principal Investigator in accordance with the provisions of CEQA Guidelines Section 15064.5 and Section 106 of the National Historic Preservation Act.

CR-E To avoid impacts to the *zanja* system, the measures specified in the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* (Confidential Appendix) shall be implemented. This treatment plan compiles existing information, discusses the different possible manifestations of the *zanja* (brick lined, earthen ditch, etc.), and provides research themes and treatment approaches to avoid or mitigate significant impacts. The treatment plan also includes a discussion of protocols to follow for unanticipated discoveries.

CR-F A qualified paleontological monitor shall be present on-site during ground-disturbing activities, including, but not limited to, trenching, grading, and excavation of launching and receiving pits for microtunneling in areas of paleontological sensitivity, as determined in the Cultural Resources Assessment (see Appendix E). The on-site paleontological monitor shall work under the supervision of a qualified paleontological supervisor. In the event paleontological resources are encountered during construction activities, the on-site paleontological monitor shall have the authority to redirect all work within the vicinity of the find until the discovery can be evaluated by a qualified paleontological resources specialist in accordance with the provisions of CEQA Guidelines Section 15064.5. Any fossils, should they be recovered, shall be prepared, identified and catalogued before curation in an accredited repository designated by the lead agency.

3.4.5 Significance After Mitigation

The proposed project would potentially affect the visual landscape of the park and alter the park setting. Implementation of mitigation measures CR-A and CR-B would ensure the design of the proposed project would be consistent with the historic landscape of Elysian Park. Additionally, placement of the recycled water pipeline along the side of the Olympic Boulevard Bridge would have a visual impact to the architectural elements that exemplify the Beaux-Arts style. Implementation of mitigation measure CR-C would ensure the historical style is preserved. As such, impacts to historical resources would be reduced to a less than significant level with implementation of mitigation measures CR-A through CR-C.

Because the potential to encounter archaeological resources exists for the proposed project (as described in CR-2), archaeological and Native American monitoring is required during all ground disturbing activities at the project site in accordance with mitigation measure CR-D. In the event that potential archaeological materials are encountered during construction, all construction activity in the area of the find would cease until the discovery can be evaluated by a qualified archaeologist. Materials would be recovered and curated, as appropriate. In addition, mitigation measure CR-E would avoid impacts to the Los Angeles *zanja* system. Impacts to archaeological resources would be reduced to a less than significant level with implementation of mitigation measures CR-D and CR-E.

Similarly, monitoring for paleontological resources would be required for all ground disturbing activities in accordance with mitigation measure CR-F. Any significant materials that are discovered during construction would be cataloged and stored at an approved curation facility. Impacts to paleontological resources would be reduced to a less than significant level with implementation of mitigation measure CR-F.

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CHAPTER 3.5
GREENHOUSE GAS EMISSIONS

The purpose of this chapter is to describe how the proposed project would affect regional greenhouse gas (GHG) emissions. GHG emissions refer to airborne pollutants that are generally believed to affect global climate conditions. These pollutants have the effect of trapping heat in the atmosphere, thereby altering weather patterns and climatic conditions.

3.5.1 Pollutants and Effects

The standard definition of GHG includes six substances: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF_6).[1] Tropospheric O_3, a short-lived, not-well-mixed gas, and black carbon are also important climate pollutants. CO_2 is undoubtedly the most important GHG, and collectively CO_2, CH_4, and N_2O amount to 80 percent of the total radiative forcing from well-mixed GHGs.

CO_2, CH_4, and N_2O concentrations have increased in the atmosphere since pre-industrial times, and this increase is the main driver of climate change. Globally, CO_2 increased by 40 percent from 278 ppm circa 1750 to 390.5 ppm in 2011.[2] During the same time interval, CH_4 increased by 150 percent, from 722 parts per billion (ppb) to 1,803 ppb, and N_2O by 20 percent, from 271 ppb to 324.2 ppb in 2011. The increase of CO_2, CH_4, and N_2O is caused by anthropogenic emissions from the use of fossil fuel as a source of energy, fertilizer usage, and from land use and land use change, particularly agriculture.

For each GHG, a global warming potential has been calculated to reflect how long emissions remain in the atmosphere and how strongly it absorbs energy on a per-kilogram basis relative to CO_2. 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. Global warming potential is a metric that indicates the relative climate forcing of a kilogram of emissions when averaged over the period of interest (both 20-year and 100-year horizons) are used for the global warming potentials shown in Table 3.5-1. Other important climate-forcing sources are tropospheric O_3 and particulate matter (PM, including black carbon and other absorbing organic carbon aerosols).

[1] CARB, *Proposed First Update to the Climate Change Scoping Plan*, February 2014.
[2] Ibid.

Table 3.5-1
Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (20-Year)	Global Warming Potential (100-Year)
Carbon Dioxide	100	1	1
Nitrous Oxide	121	264	265
Nitrogen Triflouride	500	12,800	16,100
Sulfur Hexaflouride	3,200	17,500	23,500
Perflourocarbons	3,000-50,000	5,000-8,000	7,000-11,000
Black Carbon	days to weeks	270-6,200	100-1,700
Methane	12	84	28
Hydroflourocarbons	Uncertain	100-11,000	100-12,000

Source: California Air Resources Board, *Proposed First Update to the Climate Change Scoping Plan*, February 2014.

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 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.[3] 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;[4]

- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[5]

- 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;[6]

- 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;[7]

- 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

[3] USEPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904, April 24, 2009.
[4] *Ibid*.
[5] Intergovernmental Panel on Climate Change, *Climate Change,* 2007.
[6] *Ibid*.
[7] Cal/EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

high O_3 areas located in the southern California area and the San Joaquin Valley by the end of the 21st Century;[8] 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.[9]

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 debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change and 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.

3.5.2 Existing Environmental Setting

Figure 3.5-1 shows the California GHG emissions inventory for years 2000 to 2011.[10] Over the last decade, the statewide GHG emissions decreased from 468 million metric tons CO_2e in 2000 to 456 million metric tons CO_2e in 2011, which represents a decrease of 2.7 percent. The emissions in 2011 are the lowest of the 12-year period, while 2004 had the highest emissions, with 495 million metric tons CO_2e. During the same period, California's population grew by 10.5 percent. As a result, California's per capita GHG emissions have decreased by 11.9 percent between 2000 and 2011. The recent recession had a major impact on GHG emissions between 2008 and 2009, when emissions decreased by almost 6 percent.

3.5.3 Regulatory Setting

Federal

United States Supreme Court Ruling – Massachusetts v. Environmental Protection Agency

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (2007)*, that CO_2 and other GHGs are pollutants under the Clean Air Act, which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. On December 7, 2009, the USEPA Administrator made two distinct findings: (1) the current and projected concentrations of the six key GHGs in the atmosphere (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threatens the public health and welfare of current and future generations; and (2) the combined emissions of these GHGs from motor vehicle engines contribute to GHG pollution that threatens public health and welfare.

8 Ibid.
9 Ibid.
10 CARB, *Proposed First Update to the Climate Change Scoping Plan*, February 2014.

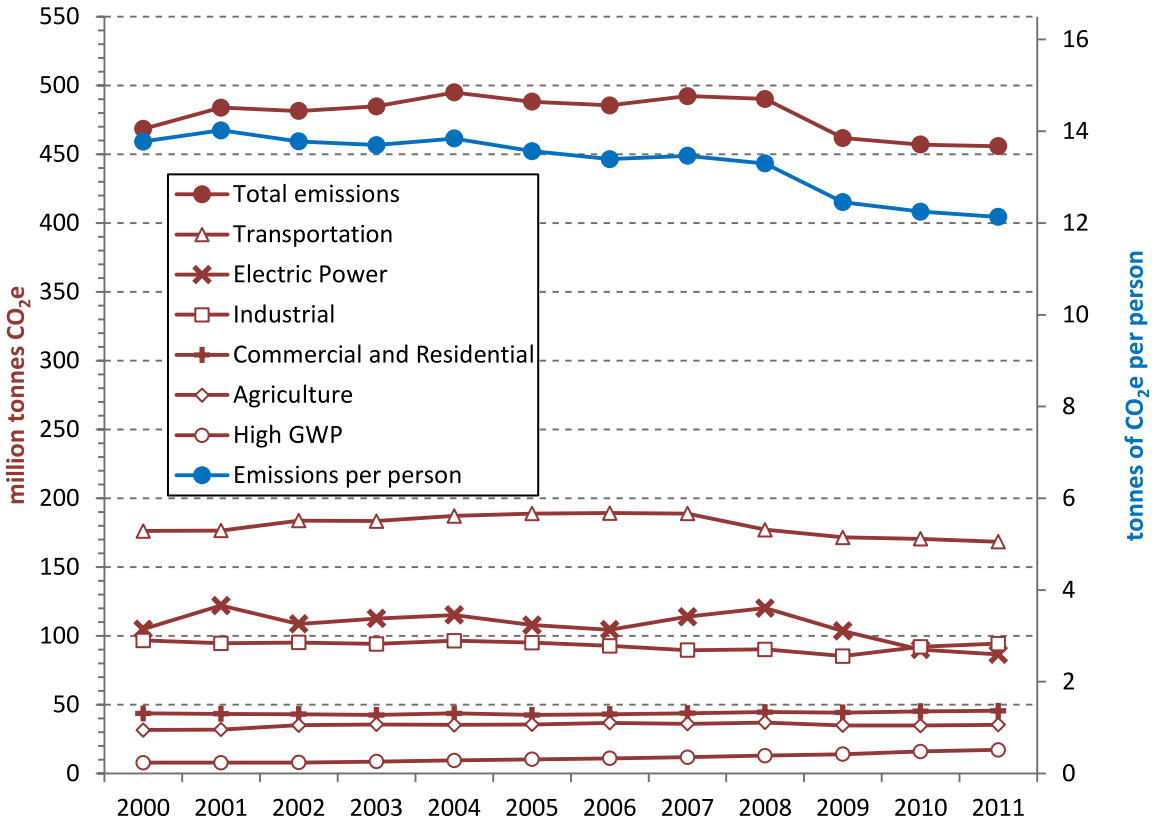

Figure 3.5-1
California GHG Emissions 2000-2011

State

Executive Order S-3-05

On June 1, 2005, Executive Order 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 the Global Warming Solutions Act of 2006 described below) and 80 percent below 1990 levels by 2050. It also calls for the Secretary of Cal/EPA to be responsible for coordination of state agencies and progress reporting.

Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 focuses on reducing GHG emissions in California and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. The CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_2e. The 2020 target reduction was estimated to be 174 million metric tons of CO_2e.

To achieve the goal, the Global Warming Solutions Act of 2006 mandates that 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 the act 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 1368, a companion bill to the act, 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.

The Global Warming Solutions Act of 2006 charges 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.[11] 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 PFCs emission from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing SF_6 emissions from the non-electricity sector.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap 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.

[11] CARB, *Proposed Early Action Measures to Mitigate Climate Change in California*, April 20, 2007.

CARB recently released the Proposed First Update to the Climate Change Scoping Plan, identifies the next steps for California's leadership on climate change.[12] It describes progress made to meet the near-term objectives of the act and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020.

As discussed previously, in December 2007, CARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO_2e. As part of the update, CARB is proposing to revise the 2020 statewide limit to 431 million metric tons of CO_2e, an approximately one percent increase from the original estimate. The 2020 business-as-usual forecast in the update is 509 million metric tons of CO_2e. California would need to reduce its emissions by 15 percent to meet the 431 million metric tons of CO_2e 2020 limit.

Regional and Local

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA promotes unity and efficiency in state air quality issues, and strives to encourage consistency in methods and practices of air pollution control. In 2008, CAPCOA published the CEQA and Climate Change White Paper.[13] This paper is intended to serve as a resource for reviewing GHG emissions from projects under CEQA. It considers the application of thresholds and offers approaches toward determining whether GHG emissions are significant. The paper also evaluates tools and methodologies for estimating impacts, and summarizes mitigation measures.

South Coast Air Quality Management District

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 metric tons per year of CO_2e for stationary source/industrial projects where the SCAQMD is the lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds. The working group is also providing guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing CEQA GHG Significance Thresholds. The working group is currently discussing multiple methodologies for

[12] CARB, *Proposed First Update to the Climate Change Scoping Plan*, February 10, 2014.
[13] CAPCOA, *CEQA and Climate Change White Paper*, January 2008.

determining project significance. These methodologies include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

Los Angeles Department of Water and Power – Integrated Resource Plan

The Integrated Resource Plan is the LADWP plan for providing reliable, affordable, and environmentally responsible electric service to customers. It takes into account future energy demand, regulatory requirements, advances in renewable energy and other technologies, conservation and energy efficiency programs, and other factors, and includes multiple and concurrent GHG emissions reduction strategies.

City of Los Angeles

On May 15, 2007, Los Angeles Mayor Antonio Villaraigosa released the "GREEN LA – An Action Plan to Lead the Nation in Fighting Global Warming" (also known as the GREEN LA Plan) that has an overall goal of reducing the City of Los Angeles' GHG emissions by 35 percent below 1990 levels by 2030. This goal exceeds the targets set by both California and the Kyoto Protocol, and is the greatest reduction target of any large United States city. The cornerstone of the GREEN LA Plan is increasing the City's use of renewable energy to 35 percent by 2020.

3.5.4 Environmental Impacts

Thresholds of Significance

Pursuant to the CEQA Guidelines, the proposed project would have a significant effect on GHG emissions and its incremental contribution to global climate change if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment; and/or

- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The CEQA Guidelines require lead agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guideline allows lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

The City of Los Angeles and LADWP have not adopted GHG thresholds of significance for CEQA. The SCAQMD Governing Board has adopted the staff proposal for a GHG significance threshold of 10,000 metric tons per year of CO_2e for stationary source/industrial projects where the SCAQMD is the lead agency. Although the SCAQMD is not the lead agency for the proposed project, this threshold is applicable due to the industrial nature of the proposed project. In addition, this threshold is consistent with the 10,000-metric-ton standard used by the Market Advisory Committee for inclusion in a GHG Cap and Trade System in California.

Methodology

This GHG analysis is consistent with the methods described in the SCAQMD CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality Handbook, as provided on the SCAQMD website. Construction emissions were estimated using the emissions factors and emission rates obtained from Appendix D - the Data Tables used by California Emissions Estimator Model (CalEEMod) version 2013.2.2. The emission factors used within CalEEMod were obtained from the OFFROAD model for equipment exhaust and EMFAC2011 for on-road vehicles.

Impact Analysis

GHG-1 *The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant.*

The majority of GHG emissions associated with the proposed project would be generated by construction emissions, including equipment exhaust, truck trips, and worker commute trips. As shown in Table 3.5-2, maximum GHG emissions during construction of both the Elysian Park WRP and the Downtown WRP would total 1,956 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 52 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; therefore, the impact would be less than significant.

Table 3.5-2
Annual Greenhouse Gas Emissions

Year	Carbon Dioxide Equivalent (Metric Tons per Year)
Year 2015 (Elysian Park WRP)	32
Year 2016 (Elysian Park WRP)	122
Year 2017 (Elysian Park WRP)	275
Year 2018 (Elysian Park WRP)	191
Year 2019 (Elysian Park WRP)	28
Year 2019 (Downtown WRP - Pressure Regulator Station)	518
Year 2020 (Downtown WRP)	362
Year 2021(Downtown WRP)	46
Total Emissions	**1,574**
Total Amortized Emissions	**52**
SIGNIFICANCE THRESHOLD	**10,000**
Exceed Threshold?	**No**

Source: TAHA, 2015.

GHG-2 *The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The impact would be less than significant.*

Long-term, the proposed project would improve the reliability of the City of Los Angeles water supply through increased recycled water use and provide recycled water to some of the City of Los Angeles' largest water customers. This is relevant to GHG emissions because water-related energy use consumes approximately 19 percent of the California's electricity. The energy generated to extract, treat, and transport potable water generates significant GHG emissions. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. As a result, the installation of the proposed recycled water pipelines for the both the Elysian Park WRP and the Downtown WRP would lead to a reduction in regional energy demand and associated GHG emissions. This would be consistent with all relevant GHG reduction plans, policies, and regulations (e.g., GREEN LA Plan). Therefore, the impact to consistency with applicable plans, policies, and regulations would be less than significant.

3.5.5 Mitigation Measures

Impacts to GHG emissions would be less than significant. Therefore, no mitigation measures are required.

3.5.6 Significance After Mitigation

Impacts to GHG emissions would be less than significant without mitigation.

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CHAPTER 3.6
LAND USE AND PLANNING

This chapter describes the proposed project's potential impacts to land use and consistency with relevant land use plans, policies, and regulations; and evaluates the relationship of the proposed project with surrounding land uses.

3.6.1 Environmental Setting

Existing Land Uses

Elysian Park WRP

The Elysian Park WRP project site is primarily located within Elysian Park. However, portions of the project site include the Los Angeles River Bike Path, Riverdale Avenue, Blake Avenue, Dorris Place, and Park Drive. These portions of the project site currently contain a bike path and paved roadways. The remainder of the project site is located within Elysian Park, including paved roadways, compacted dirt hiking trails, and disturbed areas, as well as existing water utilities. The portion of the project site at the park's boundary immediately southwest of I-5 is currently developed with a pumping station that is entirely enclosed by 8-foot tall chain link fencing. The portion of the project site at the southwest corner of the intersection of Stadium Way and Elysian Park Drive is currently developed with a pump house that is approximately 8-foot tall, four-walled stucco structure with a roof. The portion of the project site located on a hilltop near Elysian Fields currently contains a 500,000 gallon water tank.

Downtown WRP

The Downtown WRP project site is entirely located within paved public roadways in the urbanized and fully developed communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles.

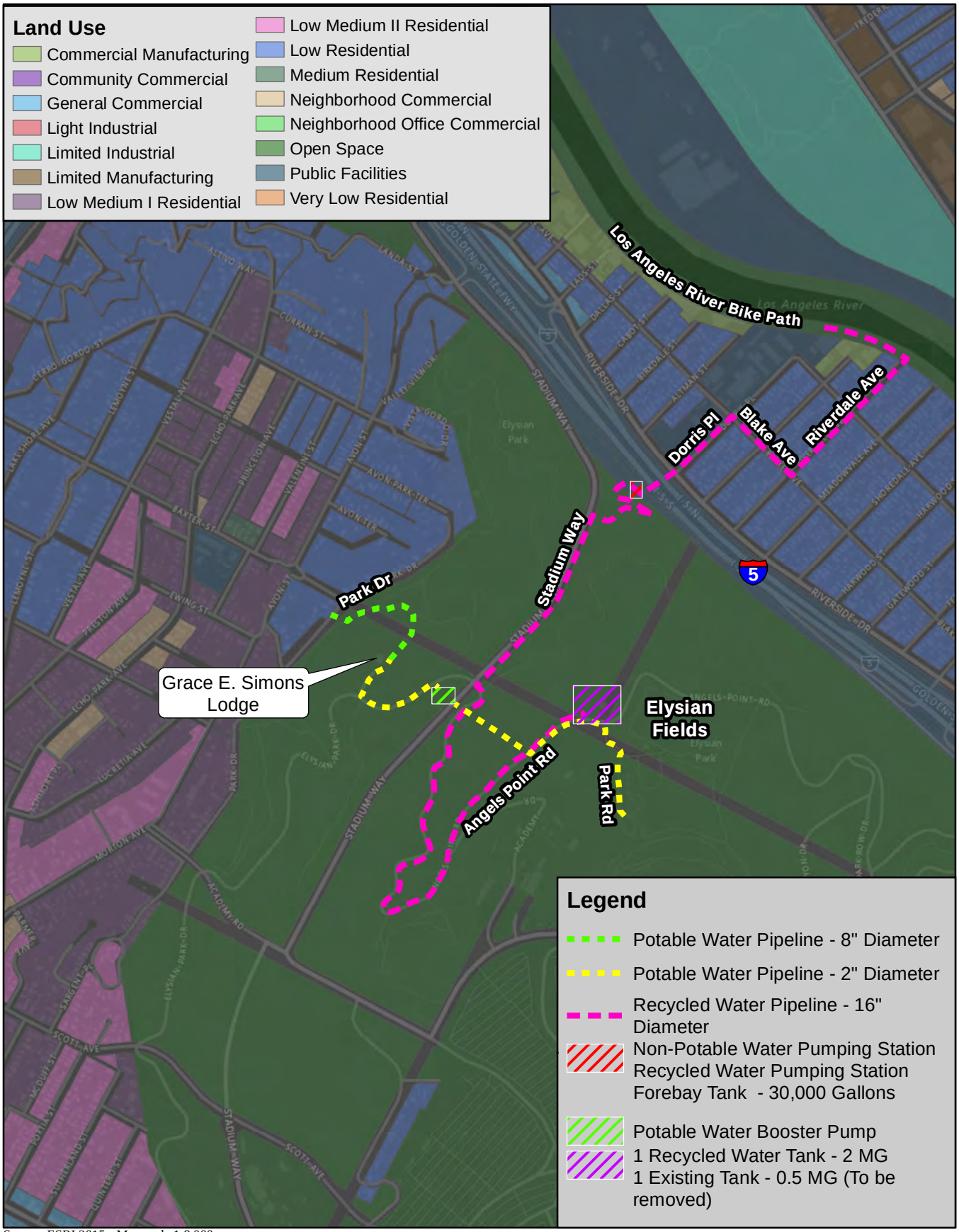
Surrounding Setting

Elysian Park WRP

As shown in Figure 3.6-1, the area surrounding the Elysian Park WRP project site (and outside of Elysian Park) is primarily characterized by residential communities. The Los Angeles River is located adjacent and to the northeast of the project site. In addition, Elysian Park surrounds the project site and is currently developed with park and recreational uses including hiking trails, athletic fields, and passive recreation areas. Dodger Stadium is also located within Elysian Park, approximately 0.25 miles south of the project site.

Downtown WRP

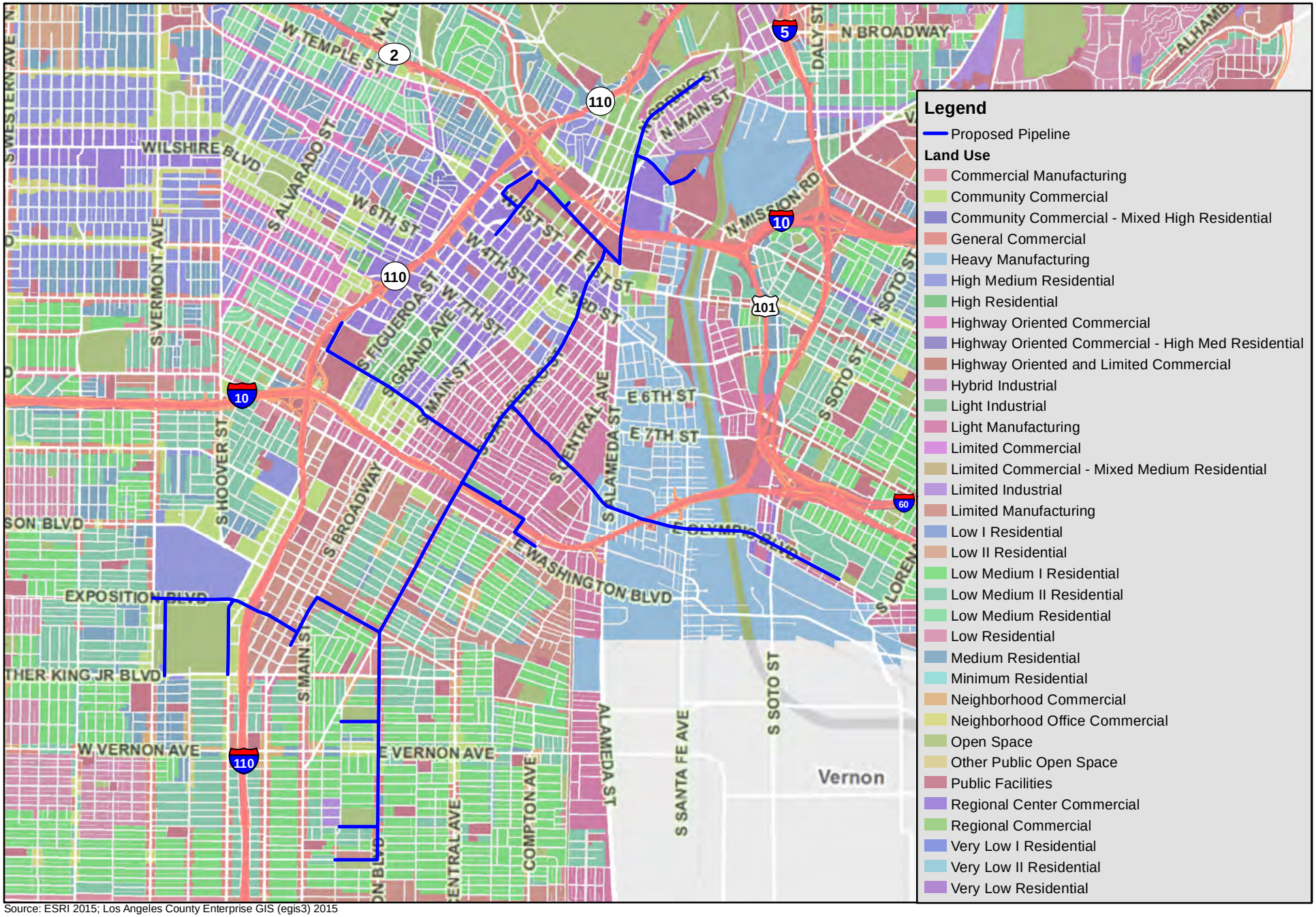
The area surrounding the Downtown WRP project site is fully developed and urbanized. As shown on Figure 3.6-2, land uses in the vicinity of the Downtown WRP project site primarily include residential, commercial, industrial, and office uses. Other land uses in the vicinity of the project site include the Los Angeles Convention and Event Center; the University of Southern



Source: ESRI 2015 - Map scale 1:9,000

0 750 1,500 Feet

Figure 3.6-1
Elysian Park WRP Land Use Designations Map



Source: ESRI 2015; Los Angeles County Enterprise GIS (egis3) 2015

0 1 2 Miles

Figure 3.6-2

Downtown WRP Land Use Designations Map

Elysian Park/Downtown WRP

California and associated facilities; Exposition Park, which includes, the Natural History Museum, the California Science Center, the California African American Museum, and the Los Angeles Coliseum and Sports Arena; and the South Los Angeles Wetlands Park. Additionally, Downtown WRP alignment extends across the Los Angeles River via the Olympic Boulevard Bridge.

Additional Projects in the Surrounding Area

Chapter 4, Impact Overview, includes a list of all approved or proposed development projects in the vicinity of the proposed project. The list of development projects was derived from information provided by LADOT. As described in further detail in Chapter 4 of the EIR, related projects provided by LADOT are used in the analysis of cumulative impacts. The discussion in this section identifies additional projects that are known to be located in the surrounding project area that contribute to the surrounding environmental setting for land use and planning.

Taylor Yard Bikeway and Pedestrian Bridge over Los Angeles River Project

The Taylor Yard Bikeway and Pedestrian Bridge over the Los Angeles River Project would connect the existing Los Angeles River Bike Path along the west bank of the Los Angeles River to an existing road on the eastside of the Los Angeles River. The proposed bridge would focus on visual aesthetics, and include an LADWP recycled water line (Taylor Yard WRP) and an on-grade railroad crossing. The overall intent of this project is to eventually provide a connection from the bike path at San Fernando Road to the Los Angeles River Bike Path. The project is proposed by the City of Los Angeles Department of Public Works, Bureau of Engineering and is currently in the pre-design phase, with construction projected to begin in 2016.[1] The proposed Elysian Park WRP would connect to the termination point of the Taylor Yard WRP and proposed Taylor Yard Bikeway and Pedestrian Bridge over the Los Angeles River Project 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 connection would link the Elysian Park WRP 16-inch recycled water line to the Taylor Yard WRP, which is proposed to be included on the bridge.

Bending the River Back into the City Project

The Bending the River Back into the City Project is proposed to provide a long-term non-potable irrigation water source to serve the Los Angeles State Historic Park (also known as the Cornfields Park) and other nearby local demands. The project is also proposed to divert water from the Los Angeles River, lift the water by use of the proposed water wheel, and treat the water to distribute for use. The water wheel would be modeled after the historic wheel that previously existed at the site and would create an aesthetic and educational statement about the use of the Los Angeles River and water conservation.[2] As of this writing, the project is currently in the design phase. The Bending the River Back into the City project site is located downstream along the Los Angeles River at North Baker Street and does not overlap any portion of the Elysian Park WRP project site.

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1 City of Los Angeles Department of Public Works, Bureau of Engineering, *Project Information Report –Taylor Yard Bikeway/Pedestrian Bridge over LA Rvr,* available at http://boe.lacity.org/uprs/report/ProjectInfoReport.cfm?k =1403&dmy=120559, accessed December 1, 2014.

2 City of Los Angeles Department of Public Works, Bureau of Engineering, *Draft Initial Study/Mitigated Negative Declaration for Bending the River Back into the City Project*, October 11, 2013, available at http://eng.lacity.org/techdocs/emg/docs/bending_river/Bending_River_MND_IS-App_A.pdf, accessed December 1, 2014.

Los Angeles Streetcar Project

The Los Angeles Streetcar Project, also known as the Restoration of Historic Streetcar Service in Downtown Los Angeles, is proposed to travel primarily on Broadway to serve the following destinations: Historic Broadway; South Park, including L.A. LIVE, Staples Center, LA Convention and Events Center; Bunker Hill, including the Music Center, Walt Disney Concert Hall, the Museum of Contemporary Art, and the Broad Museum; Civic Center, including City Hall and the Cathedral of Our Lady of the Angels; and the Financial Core, including Pershing Square, and the Los Angeles Central Library. The streetcar is also proposed to provide connections to Metro rail and Metro and municipal bus service.[3] The Los Angeles Streetcar Project is currently in the design phase and final alignment and construction schedule are currently unknown. The project site does not include any portion of Broadway in downtown Los Angeles.

Broadway Streetscape Master Plan

The Broadway Streetscape Master Plan was adopted by the City Planning Commission on February 14, 2013. The Broadway Streetscape Master Plan is a planning document that provides design guidelines and standards under which future streetscape enhancement projects would be implemented based on the availability of funding. The area comprising the Broadway Streetscape Master Plan spans eight blocks on Broadway from 2nd Street to Olympic Boulevard in downtown Los Angeles. As of this writing, LADOT does not identify any specific development projects proposed under the Broadway Streetscape Master Plan. The project site does not include any portion of Broadway in downtown Los Angeles.

Metro Regional Connector Project

The Los Angeles County Metropolitan Transportation Authority's (Metro's) Regional Connector Project will extend the Metro Gold Line Little Tokyo/Arts District Station to the 7th Street/Metro Center Station, allowing passengers to transfer to Metro Blue, Expo, Red, and Purple Lines, bypassing Union Station.[4] The Metro Regional Connector is intended to improve access to both local and regional destinations through the provision of continuous service between and/or connections to multiple rail lines. As of this writing, initial construction is underway. The project site crosses over the Regional Connector alignment at San Pedro Street and 2nd Street, and at Hope Street and 2nd Street.

3.6.2 Regulatory Setting

The Elysian Park WRP and Downtown WRP project site is subject to the designations and regulations of several local and regional land use plans. At the regional level, the project site is located within the planning area of the Southern California Association of Governments (SCAG), the region's federally-designated metropolitan planning organization. The project site is also located within the City of Los Angeles in Elysian Park, the Elysian Valley neighborhood, and the communities of Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles. Therefore, at the local level, the project site is subject to the development regulations and policies set forth in the City of Los Angeles General Plan and

[3] Los Angeles County Metropolitan Transportation Authority, *City of Los Angeles Restoration of Historic Streetcar Service in Downtown LA Fact Sheet*, available online at: http://media.metro.net/projects_studies/historic-streetcar/images/streetcar_factsheet_2013_1101.pdf, accessed July 24, 2014.

[4] Los Angeles County Metropolitan Transportation Authority, Regional Connector Transit Project, website: http://www.metro.net/projects/connector/, accessed July 24, 2014.

the City of Los Angeles General Provisions and Zoning Code and other applicable sections of the City of Los Angeles Municipal Code (LAMC).

Regional

2008 Regional Comprehensive Plan

The 2008 Regional Comprehensive Plan is a guidance document that was published in October 2008 and serves as an advisory document for use by local governments in the SCAG region as an informational resource and as a reference document for their use in developing plans and addressing local issues of regional significance. The 2008 Regional Comprehensive Plan defines a vision for the SCAG region that includes balancing resource conservation, economic vitality, and quality of life. It also provides a long-term planning framework that describes comprehensive responses to growth and infrastructure challenges and recommends an Action Plan targeted for the year 2035. The 2008 Regional Comprehensive Plan incorporates principles and goals of the Compass Blueprint Growth Vision and includes nine chapters addressing land use and housing, transportation, air quality, energy, open space, water, solid waste, economy, and security and emergency preparedness. It also provides a series of recommended near-term policies that developers and key stakeholders should consider for implementation, as well as potential policies for consideration by local jurisdictions and agencies when conducting project review. However, due to the advisory nature of the 2008 Regional Comprehensive Plan, SCAG reviews new projects based on consistency with the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Compass Growth Vision.

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

The RTP is a long-range plan that is updated by SCAG every four years. Accordingly, the 2012-2035 RTP/SCS was adopted by SCAG in April 2012 and replaces the 2008 RTP. The RTP/SCS serves as a regional transportation planning tool through the year 2035 composed of a financial plan, sustainable communities strategy, and a strategic plan. The RTP/SCS identifies available and reasonably foreseeable sources of funding, which it directs to multimodal transportation projects that benefit SCAG's member communities.[5] The vision for the 2012-2035 RTP/SCS is centered on three key principles for the region, including mobility, economy, and sustainability.

Southern California Compass Growth Vision Report

Adopted in 2004, the Compass Growth Vision Report presents the comprehensive Growth Vision for the six-county SCAG region, as well as the achievement of the Compass process. The report is focused on the physical aspects of regional growth, such as where people and jobs locate, the type and quantity of buildings that may be constructed, and how people and goods move in the region. The Compass project develops a vision for the future of the region with the following components:

- Public Participation
- Scenarios

[5] Southern California Association of Governments, *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*, adopted April 2012, available online at: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx, accessed July 15, 2014.

- Testing and Evaluation
- The Growth Vision
- Strategies
- Benchmarks

The underlying goal of the growth visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income. The four principles of the Growth vision include the following:

- Improve mobility for all residents
- Foster livability in all communities
- Enable prosperity for all people
- Promote sustainability for future generations

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan, adopted in December 1996 and re-adopted in August 2001, addresses community development goals and policies relative to the distribution of land use, both public and private. The General Plan is a dynamic document consisting of eleven elements, which include ten Citywide elements (Framework; Air Quality; Conservation; Housing; Noise; Open Space; Service Systems – Public Recreation Plan; Safety; Transportation; and Plan for a Healthy Los Angeles, Health and Wellness) and the Land Use Element, which comprises community plans for each of the City's 35 Community Plan Areas. Portions of the project site are located in six Community Plan Areas. The Community Plan Areas in which the project site is located and the corresponding land use designations in those areas are described in the following paragraphs.

Elysian Park WRP

The Elysian Park WRP is located within the Silver Lake – Echo Park – Elysian Valley Community Plan area. The Elysian Park WRP 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, while uses on the southeast side are designated as Low Density Residential.

As discussed in Chapter 2, Project Description, only the Elysian Park WRP would contain above-ground structures that would be subject to development regulations and policies outlined in the City's General Plan. All proposed above-ground structures would be located within Elysian Park, which is designated as Open Space. The community plan broadly defines Open Space as land which is essentially free of structures and buildings and/or is natural in character and functions in one or more of the following ways:

- Recreational and educational opportunities;
- Scenic, cultural, and historic values;
- Public health and safety;
- Preservation and creation of community identity;
- Rights-of-way for utilities and transportation facilities;
- Preservation of natural resources or ecologically important areas;
- Preservation of physical and scenic resources including topographic features and ridge protection.[6]

Downtown WRP

The Downtown WRP would be located within the Central City North, Central City, Southeast Los Angeles, South Los Angeles, and Boyle Heights Community Plan areas. The Downtown WRP would be located entirely within the existing road right-of-way, and does not contain any above-ground structures that would be subject to development regulations and policies contained within the General Plan. As such, this discussion identifies land use designations of the properties adjacent to the project site. The properties adjacent to the proposed pressure regulator station are designated Limited Industrial and Limited Manufacturing. The properties adjacent to the Downtown WRP recycled water pipeline alignment include the following designations: Light Manufacturing, Heavy Manufacturing, Limited Manufacturing, Public Facilities, Commercial Manufacturing, Regional Commercial, Regional Center Commercial, General Commercial, Community Commercial, Open Space, Low Medium II Residential, Medium Residential, and High Medium Residential.

City of Los Angeles Municipal Code

Elysian Park WRP

The zoning designations for the Elysian Park WRP include OS (Open Space) on the Los Angeles River Bike Path; R1 (One-Family Residential) along Riverdale Avenue, Blake Avenue, and the southeast side of Dorris Place; PF (Public Facilities) along the northwest side of Dorris Place; and OS in Elysian Park.

All proposed above-ground structures would be located within Elysian Park, which is zoned OS. The purpose of the OS zone is to provide regulations for publicly owned land in order to implement the City's adopted General Plan, including the recreation, parks and open space designations in the City's adopted district and community plans, and other relevant elements. Land uses allowed in the OS zone include parks and recreation facilities, natural resource preserves, marine and ecological preserves, public water supply reservoirs and accessory uses, and water conservation areas.[7]

Downtown WRP

The Downtown WRP would be located entirely within the existing road right-of-way, and does not contain any above-ground structures that would be subject to zoning regulations contained

[6] Los Angeles Department of City Planning, *Silver Lake-Echo Park-Elysian Valley Community Plan*, August 2004.
[7] LAMC Section 12.04.05.

within the LAMC. As such, this discussion identifies land use designations of the properties adjacent to the project site. The properties adjacent to the Downtown WRP pressure regulator station are zoned CM (Commercial Manufacturing) and M1 (Limited Industrial). The properties along the alignment of the Downtown WRP are zoned PF, OS, M1, M2 (Light Industrial), M3-1 (Heavy Industrial), MR1 (Restricted Industrial), ADP (Alameda District Specific Plan), C1 and CR (Limited Commercial), C2 and C2-2 (Commercial), CEC (Convention and Event Center), R4 and R5 (Multiple Dwelling), RD (Restricted Density Multiple Dwelling), and University of Southern California University Park Campus Specific Plan Subarea 1A and 1B.

Final Draft Elysian Park Master Plan

The Final Draft Elysian Park Master Plan, finalized in 2006, replaces the previous Master Plan, which was adopted in 1971. The 2006 Master Plan comprises four chapters, including: Fun and Recreation in the Park; Getting Around the Park; The Parkland; and Taking Care of the Park. Each chapter includes an action plan, which identifies action items and recommendations that would improve the overall park user experience as it relates to the topics covered in each chapter.[8] The boundaries of the Master Plan area are the same as for the park itself. Thus, only the portions of the Elysian Park WRP within Elysian Park are located within the Master Plan area.

3.6.3 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not physically divide an established community or conflict with any applicable habitat conservation plan or natural community conservation plan. Accordingly, these issues are not further analyzed in the EIR.

Pursuant to the CEQA Guidelines, the proposed project would have a significant land use and planning effect if it would:

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

Methodology

The determination of consistency with applicable land use policies and ordinances is based on a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines Section 15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. A project is considered consistent with the provisions of the identified regional and local plan if it meets the general intent of the plans, and would not preclude the attainment of the primary intent of the land use plan or policy. If a project is determined to be inconsistent with specific objectives or policies of a land use plan, but is largely consistent with the land use goals of that plan and would not preclude the attainment of the primary intent of the land use plan, the project

[8] City of Los Angeles Department of Recreation and Parks, *Final Draft Elysian Park Master Plan*, June 2006.

would not be considered inconsistent with the plan. In addition, inconsistency with specific objectives or policies of a land use plan does not necessarily mean that the project would result in a significant impact on the physical environment.

The analysis of land use compatibility addresses whether the proposed project would be compatible with the land use in proximity to the project site in terms of use, size, intensity, density, scale, or other factors. The compatibility analysis is based on aerial photography, land use maps, and field surveys in which surrounding uses were identified and characterized. Accordingly, the analysis addresses general land use relationships and the urban form found in the project area.

Impact Analysis

LUP-1 *The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. The impact would be less than significant.*

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

Implementation of the Elysian Park WRP and Downtown WRP would be consistent with and help support the RTP/SCS key principles of economy and sustainability for the region by maximizing the use of recycled water to replace potable sources for irrigation and industrial uses. The impact to consistency with the RTP/SCS would be less than significant.

Southern California Compass Growth Vision Report

Implementation of the Elysian Park WRP and Downtown WRP would be consistent with and help support the applicable goals of the Southern California Compass Growth Vision, especially the promotion of sustainability for future generations, by maximizing the use of recycled water to replace potable water sources for irrigation and industrial uses. The impact to consistency with the Southern California Compass Growth Vision would be less than significant.

City of Los Angeles General Plan

Elysian Park WRP

The Elysian Park WRP would contain above-ground structures that would be subject to development regulations and policies outlined in the City's General Plan. All proposed above-ground structures would be located within Elysian Park, which is designated as Open Space under the General Plan. The Elysian Park WRP involves the construction 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; and a 2 MG recycled water storage tank on a hilltop near Elysian Fields. The Open Space designation is intended for, among other uses, rights-of-way for utilities.[9] The proposed tanks and pumping stations would be constructed in areas that currently contain water supply facilities, including a tank and pumping stations that are owned and operated by LARAP.

[9] 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.

Therefore, implementation of the Elysian Park WRP would be consistent with the General Plan designation and existing development at the project site. The impact of the Elysian Park WRP to consistency with the General Plan would be less than significant.

Downtown WRP

The Downtown WRP does not include any above-ground structures that would be subject to the development regulations and policies set forth in the City's General Plan. No impact to General Plan consistency would occur with implementation of the Downtown WRP.

City of Los Angeles Municipal Code

Elysian Park WRP

All proposed above-ground structures would be located within Elysian Park, which is designated OS. Although the above-ground land uses proposed are not listed under the OS zone in the LAMC, the purpose of the zoning code is to implement the City's General Plan. As previously discussed, the proposed project would be consistent with the General Plan. Additionally, the above-ground structures would be constructed in areas where pumps and tanks currently exist. Thus, the proposed project would be consistent with existing development at the project site. Therefore, impacts to LAMC consistency would be less than significant with implementation of the Elysian Park WRP.

Downtown WRP

The Downtown WRP does not include any above-ground structures that would be subject to the zoning regulations set forth in the LAMC. No impact to consistency with the LAMC would occur with implementation of the Downtown WRP.

Final Draft Elysian Park Master Plan

As previously discussed, only the portions of the Elysian Park WRP located within Elysian Park itself are within the Master Plan area. Within the park, the Elysian Park WRP would involve the construction and operation of recycled and potable water pipelines, and associated pumps and tanks. The above-ground structures would be constructed in areas where pumps and tanks currently exist. Thus, the proposed project would be consistent with existing development at the project site. Additionally, construction and operation of the proposed project would not interfere with the implementation of the Master Plan. Further, the proposed project would help support the applicable recommendations of the Master Plan, especially through the provision of potable water supply for the drinking fountains at Elysian Fields and the provision of new recycled water irrigation infrastructure within the park. The impact to consistency with the Final Draft Elysian Park Master Plan would be less than significant.

Additional Projects in the Surrounding Area

No portion of the project site is located within the boundaries of the Bending the River Back into the City Project, Los Angeles Streetcar Project, or the Broadway Streetscape Master Plan. Thus, the proposed project would not directly impact these projects.

The Elysian Park WRP would connect to the termination point of the Taylor Yard WRP and proposed Taylor Yard Bikeway and Pedestrian Bridge over the Los Angeles River Project 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 connection would link the Elysian Park WRP 16-inch recycled water pipeline to the Taylor Yard WRP, which is proposed to be included on the bridge. As discussed in subsection 2.8 of Chapter 2, Project Description, LADWP would coordinate with all applicable agencies, including the City of Los Angeles Department of Public Works, Bureau of Engineering regarding construction schedules.

The Downtown WRP does cross over the Regional Connector alignment at the intersections of San Pedro Street and 2nd Street, and at Hope Street and 2nd Street. As such, construction of the Downtown WRP could affect implementation of this project. Additionally, construction of the Downtown WRP would require temporary lane closures, which would affect traffic circulation in the downtown area and could indirectly impact implementation of the surrounding area projects. As discussed in Chapter 2, Project Description, 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. In addition, as discussed in Chapter 3.8, Transportation and Traffic, a Traffic Management Plan would be prepared in coordination with LADOT to manage construction-related traffic impacts (see mitigation measure TRANS-A). Furthermore, as discussed in subsection 2.8 of Chapter 2, Project Description, LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, and the City of Los Angeles Community Development Department. Coordination with such agencies would minimize effects related to overlapping construction schedules. Implementation of the Traffic Management Plan and coordination with applicable agencies would ensure that impacts to the implementation of surrounding area projects would be less than significant.

3.6.4 Mitigation Measures

No significant impacts to land use and planning have been identified for the proposed project. Therefore, no mitigation measures are required.

3.6.5 Significance After Mitigation

Impacts to land use and planning would be less than significant without mitigation.

CHAPTER 3.7
NOISE

This chapter evaluates the noise and vibration impacts associated with the implementation of the proposed project. The analysis in this chapter characterizes existing noise and vibration conditions at the project site and in its vicinity, and assesses the short-term construction and long-term operational noise and vibration impacts associated with implementation of the proposed project.

3.7.1 Environmental Setting

Noise Characteristics and Effects

Characteristics of Sound

Sound is technically described in terms of the loudness (amplitude) and frequency (pitch) of the sound. The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The "A-weighted scale," abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. Figure 3.7-1 provides examples of A-weighted noise levels from common sounds.

Noise Definitions

This noise analysis discusses sound levels in terms of Equivalent Noise Level (L_{eq}). L_{eq} is the average noise level on an energy basis for any specific time period. The L_{eq} for one hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

Effects of Noise

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of human activity that is exposed to the noise source.

Audible Noise Changes

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and may evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would likely cause a community response.

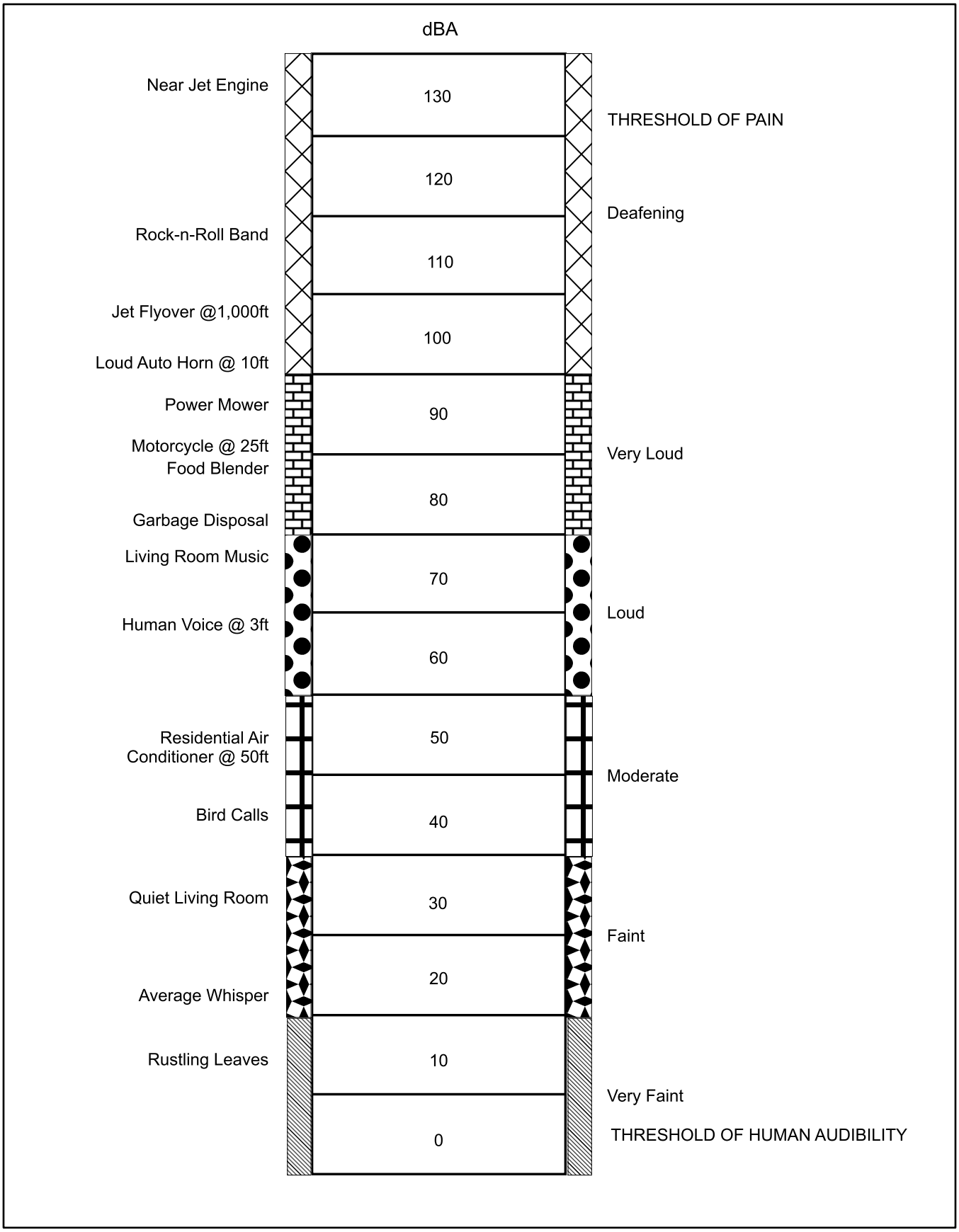


Figure 3.7-1
A-Weighted Decibel Scale

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," decreases by approximately 6 dBA over hard surfaces and 7.5 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on, over a hard surface. Noise generated by a mobile source decreases by approximately 3 dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible when traveling by direct line-of-sight. Line-of-sight is an unobstructed visual path between the noise source and the noise receptor. Barriers, such as walls, berms, natural terrain, or buildings that break the line-of-sight between the source and the receiver greatly reduce noise levels from the source since sound can only reach the receiver by bending over or around the barrier (diffraction). If a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

Vibration Characteristics and Effects

Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment.

Vibration Definitions

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square amplitude is most frequently used to describe the effect of vibration on the human body. The root mean square amplitude is defined as the average of the squared amplitude of the signal. Decibel notation is commonly used to measure root mean square. The decibel notation acts to compress the range of numbers required to describe vibration.[1]

Effects of Vibration

High levels of vibration may cause physical personal injury or damage to buildings. However, groundborne vibration levels rarely affect human health. Instead, most people consider groundborne vibration to be an annoyance that may affect concentration or disturb sleep. In addition, high levels of groundborne vibration may damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration (e.g., electron microscopes). To counter the effects of groundborne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be

[1] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

exposed to groundborne vibration levels of 0.3 inches per second without experiencing structural damage.[2]

Perceptible Vibration Changes

In contrast to noise, groundborne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 root mean square or lower, well below the threshold of perception for humans, which is around 65 root mean square.[3] Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

3.7.2 Existing Environmental Setting

Existing Noise Environment

The existing noise environment of the project site and the vicinity is characterized by vehicular traffic and other sources of noises typical to residential, urban, and recreational areas.

Elysian Park WRP

The existing noise environment within the Elysian Park WRP project area is characterized by recreational, educational, and residential land uses. Although there is some traffic noise, Elysian Park is typically free of traffic congestion and standard urban noises. The proposed pipeline alignment would extend beneath I-5, which is a substantial source of traffic noise. On the eastern portion of the alignment, the existing sources of noise include Dorris Place Elementary School and residences. Daytime ambient noise measurements were taken at a representative sample of sensitive receptors along the proposed alignment using a SoundPro DL Sound Level Meter on June 5, 2014 between 9:00 a.m. and 4:00 p.m. Figure 3.7-2 shows the noise measurement locations for the Elysian Park WRP. These readings were used to establish existing ambient noise conditions and to provide a baseline for evaluating construction noise impacts. As shown in Table 3.7-1, the noise levels ranged from 50.5 to 56.2 dBA L_{eq}.

Table 3.7-1 Elysian Park WRP Existing Noise Levels

Noise Monitoring Location	Noise Level (dBA, L_{eq})
Residences located along Blake Avenue	50.5
Residences located along Riverdale Avenue	53.2
Grace E. Simons Lodge	51.6
Dorris Place Elementary School	56.2

Source: TAHA, 2014.

[2] Ibid.
[3] Ibid.

LEGEND:

- Potable Water Pipeline - 8" Diameter
- Potable Water Pipeline - 2" Diameter
- Recycled Water Pipeline - 16" Diameter

Sensitive Receptor Locations

1. Elysian Park
2. Grace E. Simons Lodge
3. Dorris Place Elementary School
4. St. Ann Religious School

Noise Monitoring Locations

1. Residences located along Blake Avenue
2. Residences located along Riverdale Avenue
3. Grace E. Simons Lodge
4. Dorris Place Elementary School

Source: ESRI 2014 and TAHA 2012

0 750 1,500 Feet

Figure 3.7-2
Elysian Park WRP Noise Monitoring Locations

Downtown WRP

The existing noise environment within the Downtown WRP project area is characterized by a dense urban environment including residential areas, commercial districts, educational land uses, and institutional land uses. Traffic noise is the dominant noise source along the proposed pipeline alignment. Daytime ambient noise measurements were taken at a representative sample of sensitive receptors along the proposed alignment using a SoundPro DL Sound Level Meter on June 5, 2014 between 9:00 a.m. and 4:00 p.m. Figure 3.7-3 shows the noise measurement locations for the Downtown WRP. These readings were used to establish existing ambient noise conditions and to provide a baseline for evaluating construction noise impacts. As shown in Table 3.7-2, the noise levels ranged from 65.5 to 70.6 dBA L_{eq}.

Table 3.7-2 Downtown WRP Existing Noise Levels

Noise Monitoring Location	Noise Level (dBA, L_{eq})
Kedren Mental Health Center	66.2
Twenty Eighth Street School	69.7
Residences on South Vermont Ave	69.2
Los Angeles Convention Center	67.5
Los Angeles Superior Court	65.5
Sakura Crossing Apartments	70.6
Residences located on Olympic Boulevard	66.4

Source: TAHA, 2014.

Existing Vibration Environment

Elysian Park WRP

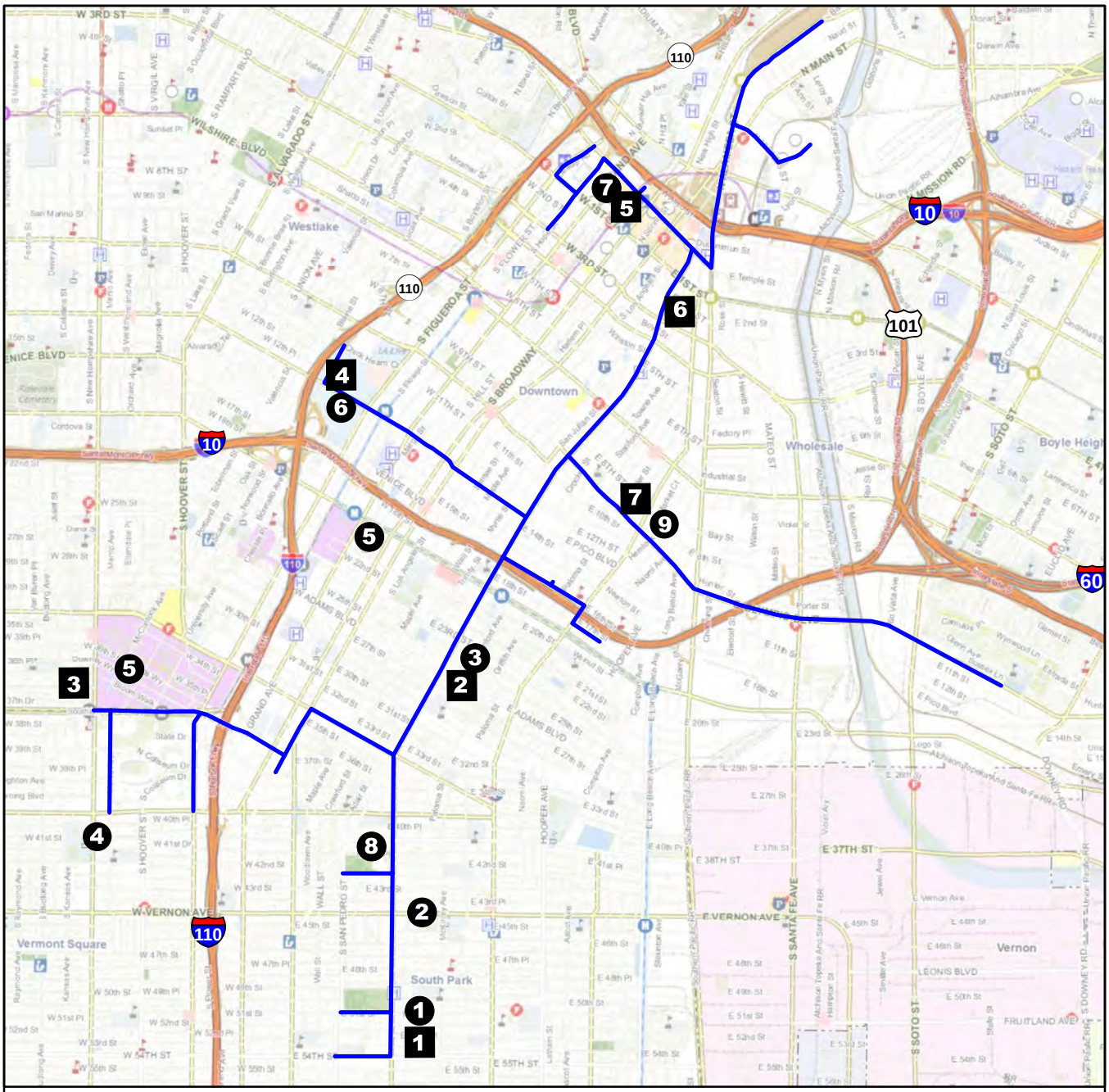
There are no substantial sources of vibration within or adjacent to the Elysian Park WRP project site. Based on field observation, the primary source of existing vibration within the vicinity of the proposed alignments is vehicular travel on the local roadways.

Downtown WRP

There are no substantial sources of vibration within or adjacent to the Downtown WRP project site. Based on field observation, the primary source of existing vibration within the vicinity of the proposed alignments is vehicular travel on the local roadways.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound would adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. Construction impacts within an urban environment are typically limited to within 500 feet of the source.



LEGEND:

Proposed Pipeline

(#) Sensitive Receptor Locations

1. Kedren Mental Health
2. United Christian Church
3. Twenty Eighth Street School
4. Residences
5. University of Southern California
6. Los Angeles Convention Center
7. Los Angeles Superior Court
8. Residences
9. Residences

[#] Noise Monitoring Locations

1. Kedren Mental Health
2. Twenty Eighth Street School
3. Residences on South Vermont Ave
4. Los Angeles Convention Center
5. Los Angeles Superior Court
6. Sakura Crossing Apartments
7. Residences on Olympic Boulevard

Source: ESRI 2015; TAHA 2015

0 0.5 1 Miles

Figure 3.7-3
Downtown WRP Noise Monitoring Locations

Elysian Park WRP

Sensitive receptors located within the Elysian Park WRP project site include the following:

- Residences located along Dorris Place, Riverdale Avenue, and Blake Avenue
- Recreational users within Elysian Park
- Grace E. Simons Lodge at 1025 Elysian Park Drive
- Dorris Place Elementary School at 2225 Dorris Place

Downtown WRP

The Downtown WRP project area is a densely populated area with numerous noise-sensitive receptors, including residences, health facilities, schools, and places of worship with daycare facilities. Specific examples of sensitive receptors located within and adjacent to the Downtown WRP project site include the following:

- Kedren Mental Health Center at 4211 South Avalon Boulevard
- United Christian Church at 625 East 43rd Street
- Twenty Eighth Street School at 2807 Stanford Avenue
- Residences on South Vermont Avenue
- University of Southern California
- Los Angeles Convention Center at 1201 South Figueroa Street
- Los Angeles Superior Court at 210 West Temple Street
- Residences on San Pedro Street
- Residences on Olympic Boulevard

3.7.3 Regulatory Setting

Federal

The Federal Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, USEPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to specific federal agencies, and state and local governments. However, noise control guidelines and regulations contained in USEPA rulings in prior years remain in place. No federal noise regulations are directly applicable to the proposed project.

Although the proposed project is not related to transportation, the FTA has published relevant guidance for assessing potential building damage associated with construction activity. According to the FTA, non-engineered timber and masonry buildings can be exposed to groundborne vibration levels of 0.2 inch per second without experiencing structural damage. Buildings extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to groundborne vibration levels of 0.12 inch per second without experiencing structural damage.

State

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. State regulations governing noise levels generated by individual motor vehicles and occupational noise control are not applicable to planning efforts nor are these areas typically subject to CEQA analysis. There are no vibration regulations mandated by the State that are applicable to the proposed project.

Local

City of Los Angeles Noise Ordinance

The City of Los Angeles has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. Regarding construction, the LAMC (Chapter IV, Article 1, Section 41.40 and Chapter XI, Article 2, Section 112.04) indicates that no construction or repair work shall be performed on weekdays between the hours of 9:00 p.m. and 7:00 a.m. the following day, since such activities can generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment, or other place of residence. No construction or repair work shall be performed before 8:00 a.m. or after 6:00 p.m. on any Saturday or on a federal holiday, or at any time on Sunday when located within 500 feet of a residential building. Under certain conditions, the City may grant a waiver to allow limited construction activities to occur outside of the limits described above.

The LAMC (Chapter XI, Article 2, Section 112.05) also specifies the maximum noise level for powered equipment. Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

The City does not have adopted standards for groundborne vibration.

3.7.4 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not result in a substantial permanent increase in ambient noise levels or expose persons to excessive noise from public or private airports. Accordingly, these issues are not further analyzed in the EIR.

Pursuant to the CEQA Guidelines, the proposed project would have a significant effect on noise if it would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels; and/or

- Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project.

Based on the LAMC, the proposed project would exceed the local standards and substantially increase temporary construction noise levels if:

- Construction activities would occur within 500 feet of a noise-sensitive use and outside the hours allowed in the LAMC. The allowable hours of construction in the LAMC include 7:00 a.m. to 9:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday. No construction activity is allowed on Sundays or federal holidays; and/or
- Equipment noise levels would exceed 75 dBA at 50 feet unless technically infeasible.

There are no federal, state, or local vibration regulations or guidelines directly applicable to the proposed construction activity. Although the proposed project is not a transportation project, FTA guidance includes relevant criteria for assessing vibration impacts from construction activity.[4] Due to the short term nature of construction activity along the proposed alignment, the impact analysis focuses on potential building damage. According to the FTA guidance, a project may have a significant vibration impact if construction activities expose buildings to vibration levels that exceed the thresholds shown in Table 3.7-3.

Table 3.7-3 Vibration Impact Criteria

Building Category	PPV (Inches/Second)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA, *Transit Noise and Vibration Impact Assessment*, May 2006.

Methodology

No increase in noise is expected to be generated by the operation of the proposed project. Therefore, the noise and vibration analysis considers construction sources only. Noise levels associated with typical equipment were obtained from the Federal Highway Administration Roadway Construction Noise Model.[5] This model predicts noise from construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. Maximum equipment noise levels were adjusted based on anticipated percent of use. Example equipment noise levels at 15 and 50 feet were estimated by making a distance adjustment to the construction source sound level. The methodology used for this analysis can be viewed in Section 2.1.4 (Sound Propagation) of the California Department of Transportation (Caltrans) Technical Noise Supplement. Vibration levels generated by construction equipment were estimated using example vibration levels and propagation formulas provided by the FTA in the Transit Noise and Vibration Impact Assessment guidance.[6] The methodology used for the analysis can be viewed in Section 12.2 (Construction Vibration Assessment) of the FTA guidance.

[4] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.
[5] Federal Highway Administration, *Roadway Construction Noise Model*, Version 1.1, August 2006.
[6] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

Impact Analysis

NOISE-1 *Construction of the proposed project would expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Implementation of mitigation measures would be required.*

Elysian Park WRP

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 majority of construction activity would involve cut-and-cover trenching. However, installation of the recycled water pipeline from Dorris Place beneath I-5 would require a trenchless form of construction called "microtunneling" so as not to interfere with traffic on the freeway. A tunnel less than 1,000 linear feet would be excavated beneath I-5 via a procedure called "pipe jacking". Launching and receiving zones 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 zones and disposed of at an appropriate regional landfill. The zones would be backfilled with imported slurry and the roadway returned to its original condition. Refer to Section 2.0, Project Description for a detailed description of Elysian Park WRP construction activity.

Construction noise levels would fluctuate depending on the construction phase; equipment type and duration of use; distance between the noise source and receptor; and presence or absence of barriers. Construction activities would typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in Table 3.7-4. At 50 feet, a compactor typically generates a maximum noise level of 83.2 dBA and a back hoe typically generates a maximum noise level of 77.6 dBA.

Table 3.7-4 Noise Level Ranges of Typical Construction Equipment

Equipment	Sound Level at 15 Feet	Sound Level at 50 Feet
Back Hoe	84.0	77.6
Crane	91.0	80.6
Compactor	93.7	83.2
Generator	91.1	80.6
Truck	86.9	76.5
Directional Drill	89.6	79.1
Hydraulic Bore Machine	92.5	82.0

Source: Federal Highway Administration, Roadway Construction Noise Model, Version 1.1.

Sensitive receptors located near the Elysian Park WRP include residences located along Dorris Place, Riverdale Avenue, and Blake Avenue, recreational users within Elysian Park, Grace E. Simons Lodge, and Dorris Place Elementary School. As shown in Table 3.7-4, the operation of construction equipment would generate a noise level of approximately 83.2 dBA at 50 feet. According to Section 112.05, powered equipment and hand tools may not produce a maximum noise level exceeding 75 dBA at a distance of 50 feet. Therefore, without mitigation, the Elysian Park WRP would result in a significant impact related to construction activity. Implementation of mitigation measures NOISE-A through NOISE-J would be required to reduce construction noise impacts to a less than significant level.

The majority of vehicle noise generated on roadways is related to the generation of sound pressure waves as vehicles pass by the stationary receiver. Vehicles traveling at faster speeds generate larger sound pressure waves and more noise. Lane closures would reduce vehicle speeds and idling noise would not exceed the noise that would have been generated by vehicles traveling at regular speeds. Therefore, the Elysian Park WRP would result in a less than significant noise impact from lane closures in relation to existing traffic.

Construction activity along Stadium Way could involve nighttime construction. LAMC 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 LAMC 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. Further, Elysian Park does not contain lighted recreational facilities and all park facilities close at sundown. No recreational users should be using Elysian Park during nighttime construction hours. Therefore, the Elysian Park WRP would result in a less than significant noise impact related to nighttime construction.

Downtown WRP

Sensitive receptors located near the Downtown WRP include, but are not limited to, residences, health care facilities, places of worship, and schools. As shown in Table 3.7-5, the operation of construction equipment would generate a noise level of approximately 82.0 dBA at 50 feet. According to Section 112.05, powered equipment and hand tools may not produce a maximum noise level exceeding 75 dBA at a distance of 50 feet. Therefore, without mitigation, the Downtown WRP would result in a significant impact related to construction activity. Implementation of mitigation measures NOISE-A through NOISE-H would be required to reduce construction noise impacts to a less than significant level.

Table 3.7-5 Noise Level Ranges of Typical Construction Equipment

Equipment	Sound Level at 15 Feet	Sound Level at 50 Feet
Back Hoe	84.0	77.6
Truck	86.9	76.5
Directional Drill	89.6	79.1
Hydraulic Bore Machine	92.5	82.0

Source: Federal Highway Administration, Roadway Construction Noise Model, Version 1.1.

The majority of vehicle noise generated on roadways is related to the generation of sound pressure waves as vehicles pass by the stationary receiver. Vehicles traveling at faster speeds generate larger sound pressure waves and more noise. Lane closures would reduce vehicle speeds and idling noise would not exceed the noise that would have been generated by vehicles traveling at regular speeds. Therefore, the Downtown WRP would result in a less than significant noise impact from lane closures in relation to existing traffic.

The Downtown WRP could include nighttime construction activity to prevent traffic congestion. Nighttime construction activity within 500 feet of sensitive land uses would not be consistent with the LAMC. Therefore, without mitigation, the Downtown WRP would result in a significant impact related to nighttime construction. Implementation of mitigation measures NOISE-A through NOISE-H would be required to reduce Downtown WRP construction noise impacts to a less than significant level.

NOISE-2 *Construction of the proposed project would expose persons to or generate excessive groundborne vibration levels. Implementation of mitigation measures would be required.*

Elysian Park WRP

Construction activity can result in varying degrees of vibration, depending on the equipment and methods employed. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. Equipment used during construction would include compactors and other mobile equipment similar to small bulldozers. The construction process would not use a vibratory roller for compaction near residential or commercial areas. A compactor typically generates a vibration level of 0.089 inch per second PPV at 50 feet. Table 3.7-6 presents typical vibration levels associated with this equipment from 10 to 150 feet. As discussed above, vibration is a function of the distance of the receiver from the vibration source (i.e., construction equipment). Vibration dissipates rapidly with distance (e.g., the vibration level at 15 feet is approximately half the vibration level at 10 feet). Similar to the compactor vibration levels presented in Table 3.7-6, soil drilling and boring apparatus typically generates a vibration level of 0.089 inch per second PPV at 50 feet.

Table 3.7-6 Vibration Velocities for a Compactor

Distance from Equipment (Feet)	PPV (Inches/Second)
10	0.352
15	0.191
20	0.124
25	0.089
50	0.031
75	0.017
100	0.011
125	0.008
150	0.006

Source: FTA, *Transit Noise and Vibration Impact Assessment*, May 2006.

Vibration levels were modeled for the Elysian Park WRP construction activity. Vibration levels would be 0.116 inch per second PPV at a distance of 21 feet from equipment, which would be less than the 0.12 inch per second PPV significance threshold for buildings extremely susceptible to vibration damage (e.g., historic structures). Historic structures are not located within 21 feet of the alignment. The vibration threshold of 0.2 inch per second PPV significance threshold for non-engineered timber and masonry buildings (e.g., older residences) would be exceeded at 14 feet and closer from construction equipment. Construction equipment would operate within 14 feet of structures, particularly along the Los Angeles River Bike Path where residences abut the alignment. Therefore, without mitigation, the Elysian Park WRP would result in a significant impact related to vibration. Implementation of mitigation measure NOISE-K would be required to reduce this impact to a less than significant level.

Downtown WRP

The potential vibration impacts for the Downtown WRP are similar to the analysis presented above for the Elysian Park WRP. Advanced engineering has not been completed for the Downtown WRP, and it is likely that equipment would operate within 15 feet of structures at certain locations (e.g., densely developed San Pedro Street). The Downtown WRP would also

result in a significant impact from vibration during construction. The implementation of mitigation measure NOISE-K would be required to reduce this impact to a less than significant level.

NOISE-3 *Construction of the proposed project would result in a temporary increase in ambient noise levels in the project vicinity above levels existing without the project. Implementation of mitigation measures would be required.*

As described above, land uses near the proposed Elysian Park WRP and Downtown WRP alignments would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would exceed 75 dBA at 50 feet. Therefore, without mitigation, the proposed project would result in a significant noise impact related to temporary and periodic construction activity. Implementation of mitigation measures NOISE-A through NOISE-J would be required to reduce this impact to a less than significant level.

3.7.5 Mitigation Measures

NOISE-A For construction activities lasting more than three months in one location, temporary barriers (e.g., noise blankets) shall be utilized around equipment located within 500 feet of a sensitive receptor.

NOISE-B LADWP shall use construction equipment that is properly maintained and equipped with mufflers.

NOISE-C LADWP shall use rubber-tired equipment rather than tracked equipment.

NOISE-D LADWP shall turn off equipment when not in use for an excess of five minutes except for equipment that requires idling to maintain performance.

NOISE-E LADWP shall appoint a public liaison for project construction that will be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison shall determine the cause of the concern (e.g., starting too early, bad muffler) and implement measures to address the concern.

NOISE-F LADWP shall notify the public in advance of the location and dates of construction hours and activities.

NOISE-G LADWP shall limit truck routes to major arterial roads within non-residential areas.

NOISE-H Construction activities shall be prohibited between the hours of 9:00 p.m. and 7:00 a.m. when located within 500 feet of occupied sleeping quarters or other land uses sensitive to increased nighttime noise levels.

NOISE-I 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).

NOISE-J LADWP shall coordinate with the site administrator for Dorris Place Elementary School to discuss construction activities that generate high noise levels along

Dorris Place. Coordination between the site administrator and LADWP shall continue on an as-needed basis while construction is occurring on Dorris Place to mitigate potential disruption of classroom activities.

NOISE-K Prior to construction, LADWP in coordination with a historic resources expert and/or a licensed structural engineer shall identify non-engineered timber and masonry residences within 15 feet of construction equipment. If these structures are identified within this distance, a structural engineer licensed in California shall survey the existing foundations. The structural engineer shall submit a pre-construction survey letter to LADWP establishing baseline conditions at the buildings. At the conclusion of vibration causing activities, the structural engineer shall issue a follow-up letter describing the post-construction condition of the buildings. The letter shall include recommendations for repair, as may be necessary.

3.7.6 Significance After Mitigation

Mitigation measures NOISE-A through NOISE-J are designed to reduce construction noise levels. Mitigation measures NOISE-A through NOISE-H apply to both the Elysian Park WRP and Downtown WRP. Mitigation measures NOISE-I and NOISE-J apply only to the Elysian Park WRP. When the line-of-sight would be blocked from the equipment to the receptor, the barriers associated with mitigation measure NOISE-A would reduce construction noise levels by approximately 5 dBA. The equipment mufflers associated with mitigation measure NOISE-B would reduce construction noise levels by approximately 3 dBA. Mitigation measures NOISE-C through NOISE-G, although difficult to quantify, would also reduce and/or control construction noise levels. Mitigation measures NOISE-H and NOISE-I would ensure that construction noise would not disrupt activities at Grace E. Simons Lodge or Dorris Place Elementary School, and mitigation measure NOISE-J would prevent nighttime construction from impacting residences. Temporary noise barriers were considered for placement along the entire alignment. However, such barriers were determined to be infeasible for multiple reasons, including safety at intersections and cost effectiveness given the transient and short-term nature of the proposed construction activity in any one location. Additional mitigation measures were considered to reduce noise levels but were determined to be infeasible. These include the following:

- Electric Equipment - Electric equipment would generate less noise than diesel equipment but is not widely available and the horsepower associated with electric equipment would not meet project requirements.

- Relocation - Removing the affected land uses from the construction zone would eliminate the impact. This measure would not be feasible due to the number of affected land uses and associated cost of relocation.

- Window Retrofits - Retrofitting windows at affected land uses would reduce noise exposure. This measure would not be feasible due to the number of affected land uses and associated cost of relocation.

For the Elysian Park WRP, it was estimated that the unmitigated equipment noise level would be 83.2 dBA at 50 feet. The engine mufflers discussed above would reduce the noise level to 80.2 dBA at 50 feet, and, when feasible, temporary barriers (e.g., noise blankets) would further reduce the noise level to 75.2 dBA at 50 feet. Based on compliance with the LAMC, equipment noise would be mitigated to the greatest extent feasible. The implementation of mitigation

measures NOISE-A through NOISE-H would reduce significant noise impacts to a less than significant level.

For the Downtown WRP, it was estimated that the unmitigated equipment noise level would be 82.0 dBA at 50 feet. The engine mufflers discussed above would reduce the noise level to 79.0 dBA at 50 feet, and, when feasible, temporary barriers (e.g., noise blankets) would further reduce the noise level to 76.0 dBA at 50 feet. Based on compliance with the LAMC, equipment noise would be mitigated to the greatest extent feasible. The implementation of mitigation measures NOISE-A through NOISE-H would reduce significant noise impacts to a less than significant level.

Vibration-related mitigation measure NOISE-K is required for both the Elysian Park WRP and Downtown WRP. Implementation of this mitigation measure would ensure that potentially impacted land uses are identified after advanced engineering, and that building damage caused by construction equipment would be determined and fixed. The implementation of mitigation measure NOISE-K would prevent permanent vibration damage and would reduce significant vibration impacts to a less than significant level.

CHAPTER 3.8
TRANSPORTATION AND TRAFFIC

This chapter evaluates the potential transportation and traffic impacts associated with the proposed project. The following analysis is based on the *Traffic Study for the LADWP Elysian Park-Downtown Water Recycling Projects*, prepared by KOA Corporation in July 2014. In addition, a *Traffic Study Update Memorandum* was prepared by KOA Corporation in March 2015. The traffic study and update memorandum is included as Appendix G of this EIR.

3.8.1 Environmental Setting

A comprehensive data collection effort was undertaken to assess the condition of major roadways in the project study area, including number of travel lanes, speed limit information, parking restrictions, and other characteristics. This information was used to identify the following 27 study roadway segments analyzed under the proposed project:

Elysian Park WRP Study Roadway Segments

1. Stadium Way between Elysian Park Drive and I-5 South On- and Off-Ramps
2. Dorris Place between Riverside Drive and Blake Avenue

Downtown WRP Study Roadway Segments

3. Spring Street between Mesnager Street and College Street
4. Alameda Street between College Street and US-101 Freeway
5. San Pedro Street between Temple Street and 4th Street
6. San Pedro Street between 4th Street and 7th Street
7. San Pedro Street between 7th Street and 9th Street
8. San Pedro Street between 9th Street and Pico Boulevard
9. San Pedro Street between Pico Boulevard and 16th Street
10. San Pedro Street between Washington Boulevard and Jefferson Boulevard
11. Avalon Boulevard between Jefferson Boulevard and Vernon Avenue
12. Avalon Boulevard between Vernon Avenue and 54th Street
13. Temple Street between Main Street and Judge John Aiso Street
14. Hope Street between Temple Street and 1st Street
15. 1st Street between Hope Street and Figueroa Street
16. Pico Boulevard between Figueroa Street and Main Street
17. Pico Boulevard between Main Street and San Pedro Street
18. 9th Street between San Pedro Street and Central Street
19. Olympic Boulevard between Alameda Street and I-10 Freeway

20. Olympic Boulevard between I-10 Freeway and Los Angeles River
21. Olympic Boulevard between Los Angeles River and Grande Vista Avenue
22. 16th Street between San Pedro Street and Central Street
23. Exposition Boulevard between Vermont Avenue and Figueroa Street
24. Figueroa Street between Exposition Boulevard and Martin Luther King Jr. Boulevard
25. 37th Street between Figueroa Street and Main Street
26. Main Street between Jefferson Boulevard and 37th Street
27. Jefferson Boulevard between Main Street and San Pedro Street

The proposed Elysian Park WRP and Downtown WRP alignments are 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 a majority of the alignments; however, parking tends to be more restrictive near commercial areas. A detailed description of the characteristics of the study roadway segments and roadways along the project alignments (including number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb to curb physical width) is listed in Table 2 of the Traffic Study, which is included in Appendix G of this EIR. The locations of the Elysian Park WRP and Downtown WRP study roadway segments are shown in Figures 3.8-1 and 3.8-2, respectively.

Existing Public Transit Service

The project site is currently served by several public transit lines. These include transit lines operated by Metro, LADOT, Montebello Transit, and Santa Clarita Transit. A description of the transit lines serving the project site and surrounding areas is provided in Table 3.8-1.

Bicycle and Pedestrian Facilities

Bicycle facilities in the vicinity of the project site include the Los Angeles River Bike Path on the west side of the Los Angeles River along the proposed Elysian Park WRP alignment, and a Class III bicycle route along Main Street between Jefferson Boulevard and Martin Luther King Jr. Boulevard along the proposed Downtown WRP alignment.

Pedestrian facilities serving the project site include sidewalks and crosswalks adjacent to and intersecting with the proposed Elysian Park WRP and Downtown WRP alignments.

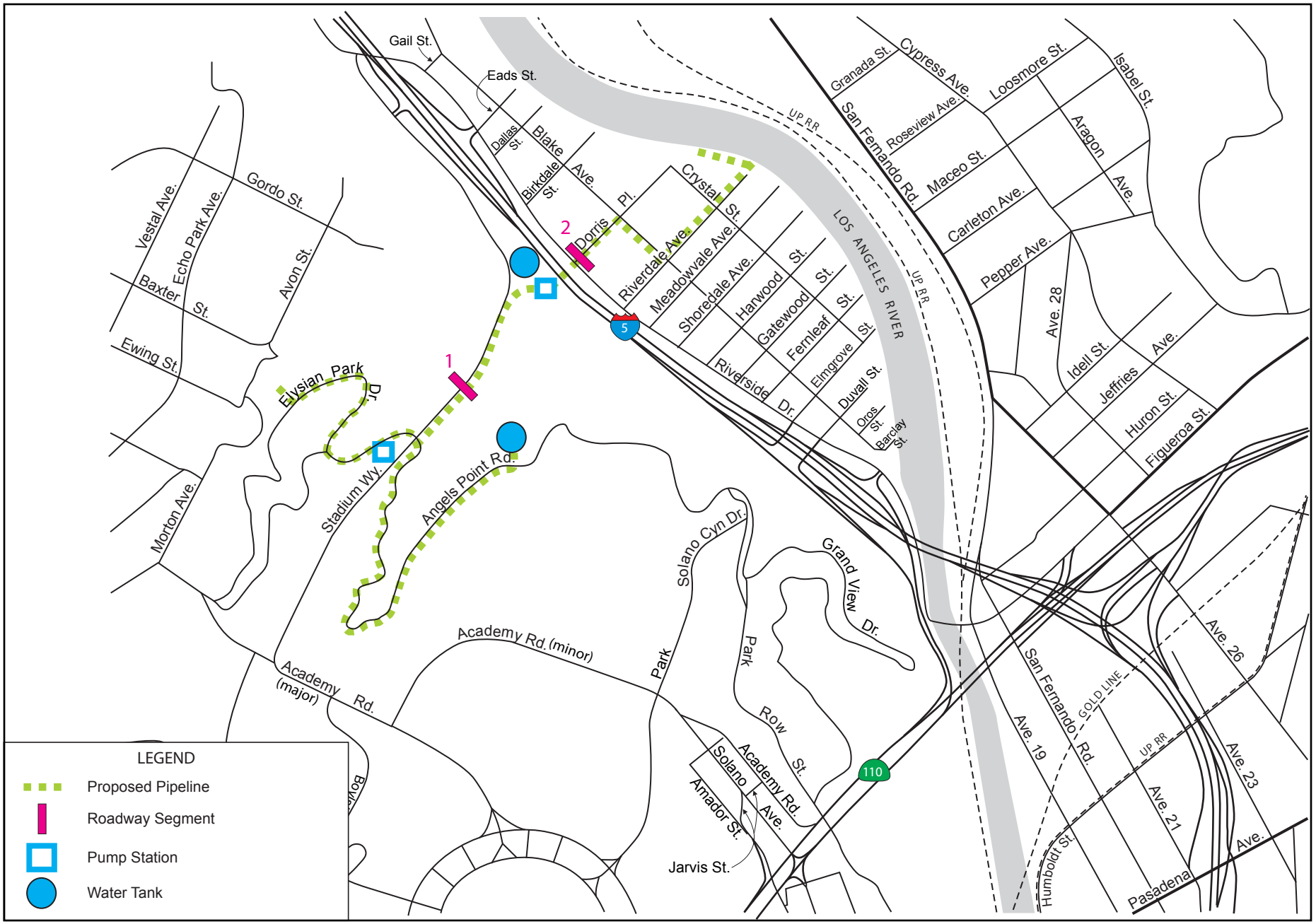
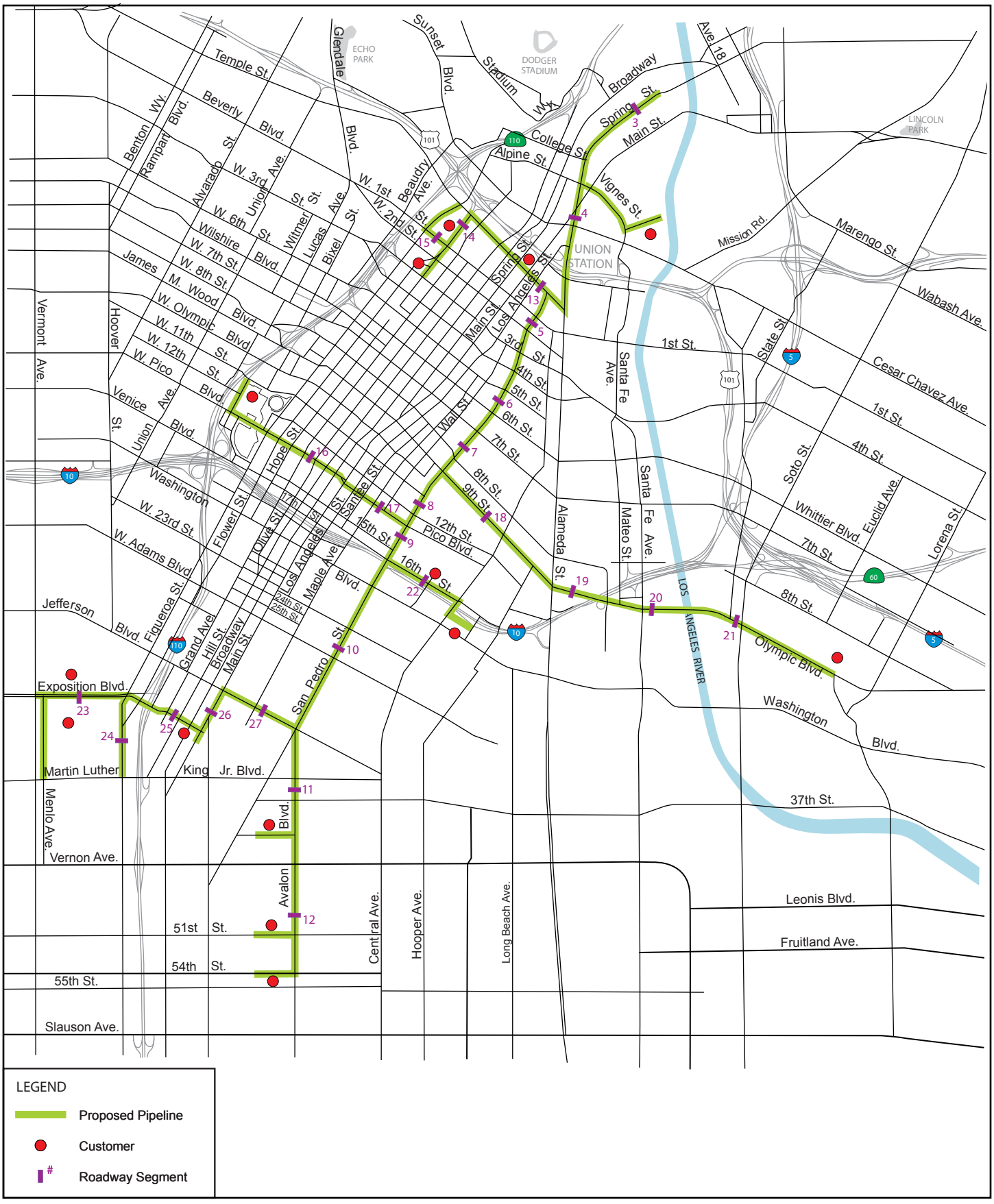


Figure 3.8-1

Elysian Park WRP Study Roadway Segment Locations

Elysian Park/Downtown WRP



Not to Scale

Figure 3.8-2
Downtown WRP Study Roadway Segment Locations

Table 3.8-1
Existing Transit Lines Serving the Project Site

Line	From/To	To/From	Via	Frequency (Approximate)	
				Weekday	
				7:00 AM – 9:00 AM	4:00 PM – 6:00 PM
Metro					
51	Compton	Wilshire Center	San Pedro Street	3 – 12 minutes	3 – 12 minutes
352	Compton	Wilshire Center	San Pedro Street	15 – 25 minutes	15 – 25 minutes
30	Downtown Los Angeles	Mid-City	Broadway	7 – 10 minutes	7 – 10 minutes
60	Downtown Los Angeles	Long Beach	Santa Fe Avenue	5 – 6 minutes	4 – 7 minutes
62	Downtown Los Angeles	Hawaiian Gardens	Olympic Boulevard	16 – 30 minutes	20 – 27 minutes
66	Wilshire Center	Montebello	Olympic Boulevard	3 – 12 minutes	3 – 12 minutes
96	Downtown Los Angeles	Burbank	Riverside Drive	28 – 30 minutes	28 – 29 minutes
102	Baldwin Village	South Gate	Exposition Boulevard	47 – 48 minutes	50 – 51 minutes
439	Downtown Los Angeles	Culver City	Pico Boulevard	41 – 49 minutes	30 – 35 minutes
550	San Pedro	West Hollywood	Exposition Boulevard	28 – 37 minutes	32 – 52 minutes
665	East Los Angeles	California State University LA	Olympic Boulevard	32 – 36 minutes	40 minutes
Metro Rapid Service					
760	Downtown Los Angeles	Lynwood	Santa Fe Avenue	9 – 20 minutes	10 – 14 minutes
Metro Rail Service					
801 - Blue Line	Downtown Los Angeles	Long Beach	N/A	4 – 9 minutes	4 – 7 minutes
802 - Red Line	Downtown Los Angeles	North Hollywood	N/A	5 – 6 minutes	5 minutes
805 – Purple Line	Downtown Los Angeles	Mid-City	N/A	5 – 6 minutes	5 minutes
806 - Expo Line	Downtown Los Angeles	Culver City	N/A	12 minutes	12 minutes
LADOT DASH					
Downtown – Route B	Chinatown	Financial District	Broadway	8 minutes	8 minutes
Downtown – Route D	Union Station	South Park	Pico Boulevard	5 minutes	5 minutes
King – East	San Pedro Blue Line Stn.	37th Street Busway Stn.	37th Street	20 minutes	20 minutes
Lincoln Heights – Chinatown	Chinatown	Lincoln Heights	Broadway	30 minutes	30 minutes
Southeast (Pueblo Del Rio)	55th Street Blue Line Stn.	37th Street Busway Stn.	Exposition Boulevard	20 minutes	20 minutes
Montebello Transit					
Line 40	Downtown Los Angeles	Montebello	3rd Street	11 minutes	11 minutes
Line 50	Downtown Los Angeles	La Mirada	Olympic Boulevard	30 minutes	30 minutes
Line 341/342	Downtown Los Angeles	Montebello	3rd Street	20 minutes	20 minutes
Santa Clarita Transit					
Route 799	Downtown Los Angeles	Santa Clarita	Spring Street	11 – 18 minutes	15 – 20 minutes

Source: Metro, LADOT, Montebello Transit, and Santa Clarita Transit.

Existing Vehicle Volumes and Levels of Service

The following discussion presents the existing peak hour vehicle volumes for each of the study roadway segments analyzed in the traffic study, describes the methodology used to assess the traffic conditions at the study roadway segments, and analyzes the resulting operating conditions at roadway segment studied, indicating the volume-to-capacity (V/C) ratio and level of service (LOS).

Level of Service Methodology

Measurements for traffic operations are based on a ratio of average daily volume on a roadway segment versus the volume that is calculated to be the design capacity. The efficiency of traffic operations at a location is measured in terms of LOS. LOS measures average operating conditions during an hour. It is based on a V/C ratio, or delay. LOS ranges from A to F, with A representing excellent (free-flow) traffic conditions and F representing extreme congestion. The delay on a street segment corresponds to a LOS value, which describes the traffic conditions. Roadway segments with vehicular volumes that are at or near capacity experience greater congestion and longer vehicle delays. Table 3.8-2 provides descriptions of general roadway operations for each LOS value for signalized intersections, as defined within the 2000 *Highway Capacity Manual* (published by the Transportation Research Board).

Table 3.8-2 Level of Service Definitions

LOS	Flow Condition	V/C Ratio
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	0.00 - 0.60
B	LOS B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.	0.61 - 0.70
C	LOS C represents stable operations; however, the ability to maneuver and change lanes in mid-block locations may be more than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the average free-flow speed for the arterial classification. Motorists will experience appreciable tension while driving.	0.71 - 0.80
D	LOS D borders on a range in which small increases in flow may cause a substantial increase in delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these factors. Average travel speeds are about 40 percent for free-flow.	0.81 - 0.90
E	LOS E is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	0.91 - 1.00
F	LOS F characterizes arterial flow at extremely low speeds below one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays and extensive queuing. Adverse progression is frequently a contributor to this condition.	Over 1.00

Existing Peak-Hour Vehicle Volumes

Field surveys and traffic counts were conducted within the study area. Average daily traffic volumes were collected at multiple points for public roadways within which the proposed pipelines would be installed. Daily vehicle volume counts utilized for base volumes at the study roadway segments were conducted on Tuesday, May 20, Wednesday, May 21, and Thursday, May 22, 2014. The volumes were collected over a 24-hour period at each location (midnight to midnight), by automatic volume counting equipment. Table 3.8-3 provides the V/C and LOS values for existing (2014) conditions during the morning and evening peak periods.

Table 3.8-3
Existing Peak-Hour Vehicle Volumes and Levels of Service

No.	Segment	AM Peak Hour		PM Peak Hour	
		V/C	LOS	V/C	LOS
	Elysian Park WRP				
1	Stadium Way b/w Elysian Park Drive and I-5 South On- Off-Ramps	0.383	A	0.206	A
2	Dorris Place b/w Riverside Drive and Blake Avenue	0.074	A	0.036	A
	Downtown WRP				
3	Spring Street b/w Mesnager Street and College Street	0.526	A	0.468	A
4	Alameda Street b/w College Street and US-101 Freeway	0.460	A	0.596	A
5	San Pedro Street b/w Temple Street and 4th Street	0.236	A	0.272	A
6	San Pedro Street b/w 4th Street and 7th Street	0.420	A	0.492	A
7	San Pedro Street b/w 7th Street and 9th Street	0.472	A	0.596	A
8	San Pedro Street b/w 9th Street and Pico Boulevard	0.550	A	0.662	B
9	San Pedro Street b/w Pico Boulevard and 16th Street	0.652	B	0.625	B
10	San Pedro Street b/w Washington Boulevard and Jefferson Boulevard	1.097	F	0.958	E
11	Avalon Boulevard b/w Jefferson Boulevard and Vernon Avenue	0.775	C	0.699	B
12	Avalon Boulevard b/w Vernon Avenue and 54th Street	0.587	A	0.607	B
13	Temple Street b/w Main Street and Judge John Aiso Street	0.453	A	0.582	A
14	Hope Street b/w Temple Street and 1st Street	0.745	C	0.631	B
15	1st Street b/w Hope Street and Figueroa Street	0.642	B	0.757	C
16	Pico Boulevard b/w Figueroa Street and Main Street	0.342	A	0.392	A
17	Pico Boulevard b/w Main Street and San Pedro Street	0.579	A	0.881	D
18	9th Street b/w San Pedro Street and Central Street	0.440	A	0.564	A
19	Olympic Boulevard b/w Alameda Street and I-10 Freeway	0.716	C	0.888	D
20	Olympic Boulevard b/w I-10 Freeway and Los Angeles River	0.665	B	0.719	C
21	Olympic Boulevard b/w Los Angeles River and Grande Vista Avenue	0.681	B	0.794	C
22	16th Street b/w San Pedro Street and Central Street	0.320	A	0.513	A
23	Exposition Boulevard b/w Vermont Avenue and Figueroa Street	0.810	D	0.754	C
24	Figueroa Street b/w Exposition Boulevard and Martin Luther King Jr. Boulevard	0.506	A	0.420	A
25	37th Street b/w Figueroa Street and Main Street	0.920	E	0.696	B
26	Main Street b/w Jefferson Boulevard and 37th Street	0.716	C	0.711	C
27	Jefferson Boulevard b/w Main Street and San Pedro Street	0.806	D	0.823	D

Source: KOA Corporation 2014

As shown in Table 3.8-3, roadway segment No. 10 (San Pedro Street between Washington Boulevard and Jefferson Boulevard) currently operates at a poor LOS (E or F) during the morning and evening peak hours. Study roadway segment No. 25 (37th Street between Figueroa Street and Main Street) currently operates at LOS E during the morning peak hour.

3.8.2 Regulatory Setting

Regional and Local

Los Angeles County Congestion Management Plan

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

City of Los Angeles 2010 Bike Plan

The City of Los Angeles 2010 Bike Plan, adopted March 1, 2011, proposes 200 miles of bikeways every five years over the next 35 years. The purpose of the 2010 Bike Plan is to increase, improve, and enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation. It establishes the following three goals: increase the number and types of bicyclists who bicycle in the City; make every street a safe place to a ride a bicycle, and make the City a bicycle friendly community.[1] The 2010 Bike Plan proposes bikeways along the following project routes: Stadium Way, Riverside Drive, Spring Street, Figueroa Street, San Pedro Street, Pico Boulevard, 9th Street/Olympic Boulevard, Main Street, 37th Street, and Exposition Boulevard.

3.8.3 Environmental Impacts

Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that neither the construction nor operation of the proposed project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; substantially increase hazards due to a design feature or incompatible uses; or result in inadequate emergency access. Accordingly, these issues are not further analyzed in this EIR.

The CEQA Guidelines establish that a proposed project would have a significant effect on transportation and traffic if it would:

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

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

[1] Los Angeles Department of City Planning, *2010 Bicycle Plan*, adopted March 1, 2011. Available online at: http://cityplanning.lacity.org/cwd/gnlpln/transelt/NewBikePlan/Txt/LA%20CITY%20BICYCLE%20PLAN.pdf, accessed July 29, 2014.

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Determination of Traffic Impacts

Impact thresholds defined by LADOT and the Los Angeles County Congestion Management Program were not utilized for the proposed project traffic analysis. These standards define significant impacts to traffic operations and the long-term mitigation of such impacts through the provision of improved traffic signal operations or additional roadway capacity. The construction of the proposed project will constrict roadway capacity in specific affected segments for a limited time period, as the trench line would be returned to its existing condition and roadway operations fully restored following completion of construction activities. Therefore, this analysis is focused on the assessment of capacity that can be provided during construction.

The impact analysis is based on roadway flow during construction and the generalized application of V/C calculations. Of particular concern are study locations that would worsen in operations to or within LOS values of E or F. These two values represent poor operating conditions. Therefore, significant impacts related to roadway segments were defined based on the worsening of peak hour conditions at any segment to or within a final LOS value of E or F.

Methodology

The transportation and traffic impact analysis is based on the following approach:

- *Existing Conditions:* The analysis of existing traffic conditions provides a basis for the remainder of the study. The existing conditions analysis includes an assessment of streets, vehicle volumes, and operating conditions.

- *Future Without Project Conditions:* Future traffic conditions are projected without the proposed project during the peak phase of construction (2019 for the Elysian Park WRP and 2021 for the Downtown WRP). The analysis of future baseline conditions included the addition of traffic growth, based on projections within the Metro 2010 Congestion Management Program. The highest Congestion Management Program 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 related projects in the area. Based on the application of traffic growth rates, future baseline conditions for the study roadway segments were computed.

- *Future With Project Conditions:* This is an analysis of cumulative future traffic conditions with the traffic expected during the peak phase of construction (2019 for the Elysian Park WRP and 2021 for the Downtown WRP), added to the predicted future baseline traffic forecasts without the proposed project. The work areas necessary to install the pipelines along the proposed routes for the Elysian Park WRP and the Downtown WRP are estimated to be 10 to 12 feet in width. This total width would require the closure of one or two travel lanes, based on existing widths of the travel lanes and on-street parking in each segment. In order to provide a conservative analysis, the width of work area was assumed to be the width of tow 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 morning peak hour period (7:00 a.m. to 9:00 a.m.) but not during the evening peak hour period (4:00 p.m. to 6:00 p.m.). The assumed lane capacity reductions caused by

project construction during the morning peak hour were used to modify the capacity values within the 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.

Upon completion of construction activities, the proposed project would not include any new operational activities. There would be no increase in operational traffic. Therefore, the thresholds and associated analysis focuses on construction traffic.

Impact Analysis

TRANS-1 *The proposed project would conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system on study street segments during construction. Implementation of the Traffic Management Plan would ensure a less than significant impact. Implementation of mitigation would be required.*

Construction of the proposed project would result in temporary, localized increases in traffic volumes associated with construction activities and temporarily reduced roadway capacities during brief periods of time in the area in which construction is occurring. The proposed project (both the Elysian Park WRP and the Downtown WRP) would potentially conflict with the City of Los Angeles Mayor's Directive #2, which 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.), if construction takes place during these times. As part of the variance to the Directive and to minimize traffic-related impacts during construction, detailed traffic control/handling plans would be prepared and subject to LADOT approval.

No complete closures of major roadways are anticipated during project construction. Existing on-street parking areas along the proposed pipeline alignments 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. During the construction of the Elysian Park WRP, Dorris Place at Riverside Drive would require temporary partial closure, with one lane of traffic anticipated to be available. Angels Point Road within Elysian Park is a narrow two-lane road. During construction of the Elysian Park WRP, this entire road along the project alignment may require closure temporarily. However, there are additional roadways within Elysian Park that could be utilized during these times.

Future Without Project Conditions

Impacts to the study roadway segments were determined by comparing future without project conditions to future with project conditions. Future traffic conditions were projected without the proposed project during the peak phase of construction (2019 for the Elysian Park WRP and 2021 for the Downtown WRP). Table 3.8-4 shows the future without project LOS calculations for the study roadway segments.

Table 3.8-4
Future Without Project Peak Hour LOS

No.	Segment	AM Peak Hour		PM Peak Hour	
		V/C	LOS	V/C	LOS
	Elysian Park WRP (2019)				
1	Stadium Way b/w Elysian Park Drive and I-5 South On- Off-Ramps	0.439	A	0.237	A
2	Dorris Place b/w Riverside Drive and Blake Avenue	0.074	A	0.036	A
	Downtown WRP (2021)				
3	Spring Street b/w Mesnager Street and College Street	0.633	B	0.564	A
4	Alameda Street b/w College Street and US-101 Freeway	0.555	A	0.718	C
5	San Pedro Street b/w Temple Street and 4th Street	0.285	A	0.327	A
6	San Pedro Street b/w 4th Street and 7th Street	0.506	A	0.592	A
7	San Pedro Street b/w 7th Street and 9th Street	0.569	A	0.718	C
8	San Pedro Street b/w 9th Street and Pico Boulevard	0.663	B	0.797	C
9	San Pedro Street b/w Pico Boulevard and 16th Street	0.786	C	0.753	C
10	San Pedro Street b/w Washington Boulevard and Jefferson Boulevard	1.321	F	1.154	F
11	Avalon Boulevard b/w Jefferson Boulevard and Vernon Avenue	0.933	E	0.842	D
12	Avalon Boulevard b/w Vernon Avenue and 54th Street	0.707	C	0.731	C
13	Temple Street b/w Main Street and Judge John Aiso Street	0.545	A	0.701	C
14	Hope Street b/w Temple Street and 1st Street	0.897	D	0.760	C
15	1st Street b/w Hope Street and Figueroa Street	0.773	C	0.911	E
16	Pico Boulevard b/w Figueroa Street and Main Street	0.412	A	0.473	A
17	Pico Boulevard b/w Main Street and San Pedro Street	0.697	B	1.061	F
18	9th Street b/w San Pedro Street and Central Street	0.530	A	0.679	B
19	Olympic Boulevard b/w Alameda Street and I-10 Freeway	0.862	D	1.070	F
20	Olympic Boulevard b/w I-10 Freeway and Los Angeles River	0.801	D	0.866	D
21	Olympic Boulevard b/w Los Angeles River and Grande Vista Avenue	0.820	D	0.956	E
22	16th Street b/w San Pedro Street and Central Street	0.385	A	0.618	B
23	Exposition Boulevard b/w Vermont Avenue and Figueroa Street	0.976	E	0.909	E
24	Figueroa Street b/w Exposition Boulevard and Martin Luther King Jr. Boulevard	0.609	B	0.506	A
25	37th Street b/w Figueroa Street and Main Street	1.108	F	0.838	D
26	Main Street b/w Jefferson Boulevard and 37th Street	0.862	D	0.857	D
27	Jefferson Boulevard b/w Main Street and San Pedro Street	0.970	E	0.992	E

Source: KOA Corporation 2014 & 2015

As shown in Table 3.8-4, the two study roadway segments within the Elysian Park WRP would continue to operate at LOS A during both the morning and evening peak hours in the future without project conditions. Within the Downtown WRP, five roadway segments would operate at LOS values of E or F during the morning peak hour, which is three more than under existing conditions. During the evening peak hour, seven roadway segments would operate at LOS E or F under future without project conditions within the Downtown WRP, which are six more than under existing conditions.

Construction Trip Generation

In calculating peak-hour trips for the proposed project, it was assumed that a majority of the employees for the Elysian Park WRP and the Downtown WRP would arrive and depart the sites or roadway segments via personal vehicles. The morning arrival by employees was assumed to

overlap the morning 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 evening peak hour, with 50 percent of employees assumed to depart the site before 4:00 p.m. Therefore, the same reduction was taken for both peak periods. It was also assumed that construction truck movement would occur prior to the morning peak period and 50 percent would depart during the p.m. peak period.

Elysian Park WRP

As shown in Table 3.8-5, during the peak month of construction for the Elysian Park WRP, the proposed project would generate a daily total of 78 passenger car equivalent trips, with 20 trips occurring during the morning peak hour and 20 trips occurring during the evening peak hour.

Downtown WRP

As shown in Table 3.8-6, during the peak month of construction for the Downtown WRP, the proposed project would generate a daily total of 74 passenger car equivalent trips, with 21 trips occurring during the morning peak hour and 21 trips occurring during the evening peak hour.

Future with Project Conditions

The assumed lane capacity reductions caused by project construction during the morning peak hour were used to modify the capacity values within the 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 3.8-7 shows the future with project LOS calculations for the study roadway segments.

Table 3.8-5
Elysian Park WRP Construction Trip Generation

	Peak Month 2019 Daily Trips			AM Peak Hour						PM Peak Hour					
				Truck[a]		Employee		Total		Truck[a]		Employee		Total	
	Truck[a]	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Office and Supervision	--	10	10	0	0	3	0	3	0	0	0	0	3	0	3
Field Personnel	--	58	58	0	0	15	0	15	0	0	0	0	15	0	15
Delivery	10	--	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*

a. Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.
Note: Inputs were 29 field personnel and 5 office/supervision staff, for Month 29 of construction
Source: KOA Corporation 2014 & 2015

Table 3.8-6
Downtown WRP Construction Trip Generation

	Peak Month 2021 Daily Trips			AM Peak Hour						PM Peak Hour					
				Truck[a]		Employee		Total		Truck[a]		Employee		Total	
	Truck[a]	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Office and Supervision	--	24	24	0	0	12	0	12	0	0	0	0	12	0	12
Field Personnel	30	--	30	2	2	0	0	2	2	2	2	0	0	2	2
Delivery	20	--	20	5	0	0	0	5	0	0	5	0	0	0	5
Total Trips	*50*	*24*	*74*	*7*	*2*	*12*		*19*	*2*	*2*	*7*	*0*	*12*	*2*	*19*

b. Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.
Note: Inputs were 12 field personnel for the average day of construction; four personnel arrive in the four construction trucks and four personnel arrive in the four dump trucks; the remaining five personnel arrive in tow construction pick-up trucks.
Source: KOA Corporation 2014

Table 3.8-7
Future With Project Peak-Hour LOS

No.	Segment	AM Peak Hour			PM Peak Hour		
		V/C	LOS	Significant Impact?[a]	V/C	LOS	Significant Impact?[b]
	Elysian Park WRP						
1	Stadium Way b/w Elysian Park Drive and I-5 South On- Off-Ramps	0.779	C	No	0.241	A	No
2	Dorris Place b/w Riverside Drive and Blake Avenue	0.193	A	No	0.058	A	No
	Downtown WRP						
3	Spring Street b/w Mesnager Street and College Street	1.782	F	Yes	0.572	A	No
4	Alameda Street b/w College Street and US-101 Freeway	1.299	F	Yes	0.725	C	No
5	San Pedro Street b/w Temple Street and 4th Street	0.814	D	No	0.336	A	No
6	San Pedro Street b/w 4th Street and 7th Street	1.428	F	Yes	0.600	B	No
7	San Pedro Street b/w 7th Street and 9th Street	1.604	F	Yes	0.726	C	No
8	San Pedro Street b/w 9th Street and Pico Boulevard	1.865	F	Yes	0.805	D	No
9	San Pedro Street b/w Pico Boulevard and 16th Street	2.206	F	Yes	0.761	C	No
10	San Pedro Street b/w Washington Boulevard and Jefferson Boulevard	3.693	F	Yes	1.162	F	No
11	Avalon Boulevard b/w Jefferson Boulevard and Vernon Avenue	2.615	F	Yes	0.850	D	No
12	Avalon Boulevard b/w Vernon Avenue and 54th Street	1.987	F	Yes	0.740	C	No
13	Temple Street b/w Main Street and Judge John Aiso Street	1.538	F	Yes	0.710	C	No
14	Hope Street b/w Temple Street and 1st Street	1.269	F	Yes	0.389	A	No
15	1st Street b/w Hope Street and Figueroa Street	2.170	F	Yes	0.920	E	No
16	Pico Boulevard b/w Figueroa Street and Main Street	1.168	F	Yes	0.481	A	No
17	Pico Boulevard b/w Main Street and San Pedro Street	1.441	F	Yes	1.085	F	No
18	9th Street b/w San Pedro Street and Central Street	1.497	F	Yes	0.688	B	No

Table 3.8-7
Future With Project Peak-Hour LOS

No.	Segment	AM Peak Hour			PM Peak Hour		
		V/C	LOS	Significant Impact?[a]	V/C	LOS	Significant Impact?[b]
19	Olympic Boulevard b/w Alameda Street and I-10 Freeway	2.417	F	Yes	1.078	F	No
20	Olympic Boulevard b/w I-10 Freeway and Los Angeles River	2.249	F	Yes	0.875	D	No
21	Olympic Boulevard b/w Los Angeles River and Grande Vista Avenue	2.301	F	Yes	0.965	E	No
22	16th Street b/w San Pedro Street and Central Street	0.817	D	No	0.642	B	No
23	Exposition Boulevard b/w Vermont Avenue and Figueroa Street	2.733	F	Yes	0.917	E	No
24	Figueroa Street b/w Exposition Boulevard and Martin Luther King Jr. Boulevard	1.104	F	Yes	0.511	A	No
25	37th Street b/w Figueroa Street and Main Street	2.263	F	Yes	0.861	D	No
26	Main Street b/w Jefferson Boulevard and 37th Street	2.419	F	Yes	0.865	D	No
27	Jefferson Boulevard b/w Main Street and San Pedro Street	1.987	F	Yes	1.015	F	No

a. All impacts would be temporary, only affecting segments for limited time period during construction.
b. While LOS would worsen at some segments to E or F during the evening peak hour, proposed project construction would only include lane closures during the morning peak hour. Thus, the number of segments operating at LOS E or F during the evening peak hour would be the same as under the future without project conditions, and the proposed project would not contribute to a significant impact during the evening peak hour.

Source KOA Corporation 2014 & 2015

As shown in Table 3.8-7, the reduced roadway capacity during construction of the Elysian Park WRP would not impact the study roadway segments during the morning peak hour. During construction of the Downtown WRP, 23 of the 25 roadway segments would operate at LOS E or F during the morning peak hour. As construction-related lane closures would not occur during the evening peak hour, 7 roadway segments would continue to operate at LOS E or F during this peak hour, the same number as under the future without project conditions.

The national league baseball stadium, Dodgers Stadium, is located in the vicinity of the proposed Elysian Park WRP. One of the access routes from the stadium would be part of the construction route along Stadium Way. Potential traffic conditions during the construction timeframes were considered as part of this analysis. Under the future with project condition, during the morning peak hour, the analyzed roadway segment on Stadium Way from Elysian Park Drive to the I-5 southbound on- and off-ramps would operate at an acceptable level, LOS D, on game days and non-game days. During the evening peak hour, this roadway segment would operate at LOS A on both game days and non-game days. Project construction activities would not likely overlap with major games at the facility, which would occur during weekday evenings, or during weekend afternoons and/or evenings. As discussed in subsection 2.8 of Chapter 2, Project Description, construction of the Elysian Park WRP would be coordinated with the Dodgers organization and LADOT to minimize traffic disturbances on game days.

Temporary traffic lane closures during the construction of the Elysian Park WRP would affect some nearby residential uses, including driveway access, use of adjacent on-street parking, and neighborhood circulation. During construction of the Downtown WRP, temporary traffic lane closures would affect driveway access, use of on-street parking, and traffic circulation in the downtown area. Additionally, construction of the proposed project would temporarily constrict roadway capacity. Existing on-street parking areas along the proposed alignments would be utilized as travel lanes to minimize traffic lane closures, as necessary. Directional capacity would also be considered in roadway closure planning where work area placement is flexible. Nonetheless, construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. As discussed in Chapter 2, Project Description, 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 segment would be short-term and temporary. However, for the purposes of a conservative impact analysis, as shown in Table 3.8-7, construction impacts to traffic would be considered significant but temporary during the morning peak hour. Implementation of mitigation measures TRANS-A and TRANS-B are required to reduce the roadway construction impact to a less than significant level.

TRANS-2 *The proposed project would not conflict with an applicable congestion management program. No impact would occur.*

Project related traffic impacts would occur during construction activities only. No traffic impacts would occur during operation of the proposed project. As previously discussed, the County of Los Angeles Congestion Management Program level of significance thresholds are not intended to be applied to construction activities. As such, neither the Elysian Park WRP nor the Downtown WRP would exceed the significant impact thresholds defined by the County's Congestion Management Program. The proposed project would not generate any new measurable and regular vehicle trips during project operation, and no impact would occur.

TRANS-3 *The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; however, construction of the proposed project could decrease the performance or safety of such facilities during the construction period. Implementation of the Traffic Management Plan would ensure a less than significant impact. Implementation of mitigation would be required.*

Construction activities for the proposed project would require the closure of one or two travel lanes and may result in left-turn restrictions. Construction activities are also anticipated to temporarily affect public transit, bicycle, or pedestrian facilities.

Construction of the proposed project could potentially affect pedestrian travel on sidewalks and at crosswalk locations. Marked pedestrian crosswalks would be maintained throughout project construction, especially in areas near schools or transit stops. Crosswalks would be temporarily replaced immediately beyond the construction work area, as feasible. Development of a worksite traffic control and detour plan (see mitigation measure TRANS-A) would be required to reduce temporary significant impacts to pedestrian facilities during the construction period. In addition, coordination with the Los Angeles Unified School District would occur regarding pedestrian crosswalks near schools, as applicable.

Public transportation may be affected as a result of construction of both the Elysian Park WRP and the Downtown WRP. Project construction activities may require the use of existing bus stop curb lane areas. To the extent practicable, temporary bus stop closures would be accommodated with replacement bus stops outside the immediate work area. These temporary closures, however, would need to be located along wide portions of the roadway where the maximum number of travel lanes can be accommodated during construction. Development of a worksite traffic control and detour plan, in coordination with bus transit providers (see mitigation measure TRANS-A), would be required to reduce temporary significant impacts to transit facilities during the construction period.

The proposed project would include the installation of recycled water pipeline along a 700-foot segment of the existing Los Angeles River Bike Path near the northern terminus of Dorris Place in the Elysian Valley neighborhood. This segment of the bike path would require temporary closure during construction of the Elysian Park WRP. The Los Angeles River Bike Path has a total of nine access points in the vicinity of the pipeline construction area. Five of these locations do not have bike access signage, and many of these appear to be unofficial access points based on improvements and lack of signage. Therefore, detours to and from the bicycle path were analyzed from signed access points. Prior to construction, LADWP would coordinate with LADOT regarding the closure of this segment of the bike path and providing continued public access to the adjacent portions of the bike path that would not be temporarily closed during construction. To notify the public, signs would be posted near the construction area (see mitigation measure TRANS-A). Detour signs would be posted along Shoredale Avenue, Riverside Drive, and Dallas Street during the time of construction on Blake Avenue, routing bicycle traffic to Riverside Drive. Final detour plans would be subject to LADOT approval. Once construction is completed, the bike path would be returned to its original condition. In addition, the public would be notified of pedestrian facility closures and detours related to the Los Angeles River Bike Path. With implementation of mitigation measure TRANS-A, the temporary construction impact to the Los Angeles River Bike Path would be reduced to a less than significant level.

The Downtown WRP has a Class III bicycle route within the area along Main Street between Jefferson Boulevard and Martin Luther King Jr. Boulevard. Detour signs would need to be posted to route bicyclists to adjacent parallel roadways during construction within this area. Prior to construction, LADWP would be required to coordinate with LADOT regarding the closure of this segment of the bicycle route and providing continued public access to the adjacent portions of the bike route that would not be temporarily closed during construction (see mitigation measure TRANS-A). Once construction is completed, the bicycle route would be returned to its original condition. With implementation of mitigation measure TRANS-A, the temporary construction impact to this bicycle route would be reduced to a less than significant level.

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 routes in the project area: Stadium Way, Riverside Drive, Spring Street, Figueroa Street, San Pedro Street, Pico Boulevard, 9th Street/Olympic Boulevard, Main Street, 37th Street, and Exposition Boulevard. If bikeways are provided prior to project construction, it is likely that the proposed project would include the closure of these lanes. As a result, construction activities would potentially create unsafe conditions for bicyclists under restricted capacity conditions similar to the discussion in the paragraph above. Implementation of mitigation measure TRANS-A is required to reduce temporary construction impacts to proposed bicycle routes to a less than significant level should they be constructed prior to construction of the proposed recycled water pipeline alignment along that route.

3.8.4 Mitigation Measures

TRANS-A LADWP, prior to the start of construction, shall coordinate with LADOT to prepare a Traffic Management Plan (TMP). The TMP shall be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The TMP shall consist of traffic control plans showing striping changes, and a traffic signal plan for any signalized intersections indicating modifications to existing traffic signals and associated controllers to be adjusted during the construction phase. Methods to inform the public regarding project construction, and roadway, bike path, and pedestrian facility detours and closures, as well as temporary transit stop relocations, shall be implemented as part of the TMP. Additional measures to be incorporated into the TMP to improve traffic flow 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 project 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.

TRANS-B LADWP shall consult with Caltrans to obtain permits for the transport of oversized loads, and to obtain encroachment permits for any work along State facilities.

3.8.5 Significance After Mitigation

With implementation of mitigation measures TRANS-A and TRANS-B, impacts from roadway construction would be less than significant.

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CHAPTER 4
IMPACT OVERVIEW

This chapter provides an overview of the environmental effects of the proposed project, including significant unavoidable adverse impacts, impacts not found to be significant, cumulative impacts, significant irreversible environmental changes, and growth-inducing impacts. Cross-references are made throughout this chapter to other chapters of the EIR where more detailed discussions of the impacts of the proposed project can be found.

4.1 Significant Unavoidable Adverse Impacts

This chapter is prepared in accordance with Section 15126.2(b) of the CEQA Guidelines, which requires the discussion of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated, but cannot be reduced to a less than significant level. An analysis of environmental impacts caused by the proposed project has been conducted and is contained in this EIR in Chapter 3. Eight environmental issue areas were analyzed in detail in Chapter 3. According to the environmental impact analysis, the proposed project would result not in significant unavoidable adverse impacts.

4.2 Effects Not Found to be Significant

Section 15128 of the CEQA Guidelines requires the identification of impacts of a project that were determined not to be significant and that were not discussed in detail in an impacts chapter of the EIR. These issues were eliminated from further review during the Initial Study process (see Appendix A). The following section presents a brief discussion of environmental issues that were not found to be significant for this project, including aesthetics (scenic resources within a state scenic highway, and light and glare); agriculture and forestry resources; air quality (objectionable odors); biological resources (sensitive natural communities, protected wetlands, and habitat and natural community conservation plans); geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning (physical division of an established community, and habitat and natural community conservation plans); mineral resources; noise (permanent increase in ambient noise levels, and noise related to public airports and private airstrips); population and housing; public services; recreation; transportation and traffic (changes in air traffic patterns, hazards due to a design feature, and emergency access); and utilities and service systems.

4.2.1 Aesthetics - Scenic Resources within a State Scenic Highway/Light and Glare

Implementation of the proposed project would not damage scenic resources within a state scenic highway. There are no state- or City-designated Scenic Highways in the vicinity of the Elysian Park WRP or Downtown WRP.[1,2] Therefore, the proposed project would not have the

[1] State of California Department of Transportation. *State Scenic Highway Program*. Website: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm, accessed March 31, 2014.

[2] City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Transportation Element*, adopted September 8, 1999.

potential to damage scenic resources within a designated scenic highway, and no impact would occur.

Construction could occur, which may require the use of temporary night lighting. However, nighttime construction activities, should they be necessary, would only occur in non-residential areas and any lighting would be focused on the construction zone. Thus, night lighting during construction would not adversely affect nighttime views in the area.

Materials used in the permanent above-ground facilities in the Elysian Park WRP would be non-reflective and would be similar to those in use on existing facilities in the project area. In addition, the pipeline to be hung below or along the side of the Olympic Boulevard Viaduct (bridge) over the Los Angeles River within the Boyle Heights Mixed Use Project segment of the Downtown WRP would be non-reflective and would be similar to those in use on existing facilities in the project area. No new sources of glare would be introduced that would adversely affect views. Therefore, impacts related to light and glare would be less than significant.

4.2.2 Agriculture and Forestry Resources

The project sites for the Elysian Park WRP and the Downtown WRP is designated as Urban and Built-Up Land on the "Important Farmland in California" map prepared by the California Resources Agency pursuant to the Farmland Mapping and Monitoring Program. Thus, no part of the proposed project would be located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[3] Additionally, the project site is not developed for farming or agricultural use, and no Williamson Act contract is applicable to the project site.[4] Furthermore, no portion of the project site is zoned for or developed as forest land or timberland as defined in Public Resources Code Section 12220(g) and Government Code Section 4526, respectively.[5] Therefore, no impact to agriculture and forestry resources would occur.

4.2.3 Air Quality - Objectionable Odors

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 construction zones for both the Elysian Park WRP and the Downtown WRP. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, the odor impact during construction would be less than significant.

4.2.4 Biological Resources - Sensitive Natural Communities/Protected Wetlands/Habitat and Natural Community Conservation Plans

The project site does not contain riparian vegetation, it is not located within sensitive natural communities, and does not contain jurisdictional waterways. Construction activities would occur

[3] 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 July 24, 2014.

[4] State of California Department of Conservation, Williamson Act Program. Williamson Act Maps in PDF format, *Los Angeles County Williamson Act FY 2011/2012* Map. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_11_12_WA.pdf, accessed July 24, 2014.

[5] City of Los Angeles Zoning Information and Map Access System (ZIMAS). Website: http://zimas.lacity.org/, accessed July 15, 2014.

in existing roadways, compacted dirt hiking trails, and disturbed areas. Therefore, no impact to riparian habitat, sensitive natural communities, or protected wetlands would occur. Additionally, the project site is not located within a Significant Ecological Area or designated Critical Habitat. No regional habitat conservation plans or Natural Community Conservation Plans have been adopted that apply to the areas in which the Elysian Park WRP and Downtown WRP are located.[6] No impact to such plans would occur.

4.2.5 Geology and Soils

The proposed project is located within the seismically active southern California region, and like all locations within the area, is subject to strong seismic ground shaking. However, the project site is not located within a City designated Alquist-Priolo Special Study Zone or a Fault Rupture Study Area.[7] Portions of the project site are located within a City designated liquefiable area.[8] However, all proposed pipelines and facilities would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to seismic criteria.

Portions of the project site would be located within a City designated hillside area.[9] Some of these hillside areas have been identified as susceptible to landslides. 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.

Construction activities would expose soils for a limited time, allowing for possible erosion. However, all grading and site preparation would comply with all applicable provisions of Chapter IX, Division 70 of the Los Angeles Municipal Code, which addresses grading, excavation, and fill. During construction, transport of sediments from the project site by storm water runoff and winds would be prevented through the use of appropriate Best Management Practices, including Rule 403 dust control measures required by the SCAQMD. LADWP would also 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. Additionally, no large areas of exposed soils subject to erosion would be created or affected by operation of the proposed project.

Collapsible soils are prevalent throughout the southwestern United States, specifically in areas of young alluvial fans. Soil collapse occurs when the land surface is saturated at depths greater than those reached by typical rain events. The Elysian Park WRP project site is primarily underlain by alluvial fans consisting of sand, silt, and gravel.[10] The Downtown WRP project site is underlain by a mix of moderately dense to dense clay and silt, and dense to very dense sand and clay.[11] As discussed previously, the proposed project would be constructed in accordance with the latest versions of applicable federal, state, and local codes relative to seismic criteria.

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6 County of Los Angeles, *Draft General Plan, Conservation & Open Space, Proposed Significant Ecological Areas Map*, 2007.

7 City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Alquist-Priolo Special Study Zones & Fault Rupture Study Areas* Map, September 1996.

8 City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Areas Susceptible to Liquefaction* Map, September 1996.

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 Zone Report for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California*, 1998.

11 Ibid.

These building codes are designed to ensure safe construction. Compliance with existing regulations would ensure a less than significant geology and soils impact.

Due to the mix of earth materials underlying the project site, the soils are not expected to be high clay bearing, and expansion potential is considered low. The impact would be less than significant. Additionally, the proposed project does not include any habitable structures, and no septic tanks or alternative wastewater disposal systems would be used. No impact would be expected to occur.

4.2.6 Hazards and Hazardous Materials

Construction activities would be temporary in nature and would involve the limited transport, 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 the California Department of Toxic Substances Control, USEPA, the Occupational Safety & Health Administration, the Los Angeles County Fire Department, and the Los Angeles County Health Department. The transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal, state, and local regulations governing such activities.

There are no hazardous materials sites listed within or near the Elysian Park WRP; however, some sites have been identified on or near the proposed alignment for the Downtown WRP. The California Department of Toxic Substances Control's EnviroStor database lists sites of identified underground storage tanks on and near the proposed alignment; the State Water Resources Control Board's GeoTracker site indicates that three open sites are located on the proposed alignment, however, none of these sites are listed on the Cortese list.[12,13,14] The project area is not listed on the USEPA's National Priorities List.[15] These lists are compiled pursuant to Section 65962.5 of the Government Code. As previously discussed, construction activities along the Downtown WRP alignment would not require deep excavations. As such, it is not anticipated that any underground storage tanks would be encountered or disturbed during construction activities. Additionally, each of the sites identified as active is eligible for closure. Therefore, implementation of the proposed project would not create a significant hazard to the public or the environment. The impact would be less than significant.

The proposed project intersects with, is located adjacent to, or extends along several disaster routes within the City, including I-5, I-110, US 101, Spring Street, Cesar Chavez Avenue, Alameda Street, Temple Street, 1st Street, San Pedro Street, Washington Boulevard, Figueroa Street, Soto Street, Martin Luther King Jr Boulevard, and Avalon Boulevard.[16] As described in Chapter 2, Project Description, construction of the proposed project would involve temporary lane closures, which could have an effect on designated disaster routes. However, any open

[12] California Department of Toxic Substances Control, EnviroStor *Database*. Website: http://www.envirostor.dtsc.ca.gov/public/, accessed July 24, 2014.

[13] California State Water Resources Control Board, *GeoTracker Database*, Search by Map Location. Website: http://geotracker.waterboards.ca.gov/, accessed July 24, 2014.

[14] California Department of Toxic Substances Control, *DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List)*. Website: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm, accessed July 24, 2014.

[15] United States Environmental Protection Agency, *National Priorities List*, Search by Location. Website: http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm, accessed July 24, 2014.

[16] Los Angeles County Department of Public Works, Disaster Route Maps by City, *City of Los Angeles – Central Area Map*. Website: http://dpw.lacounty.gov/dsg/disasterRoutes/city.cfm, accessed July 24, 2014.

trenches would be covered with steel plates during non-work hours. Additionally, a Traffic Management Plan would be prepared in coordination with LADOT for the proposed project and would detail construction traffic control and detour methods. Implementation of the Traffic Management Plan during construction would ensure that impacts related to emergency response plans would be less than significant.

Long-term operation of the proposed project would not involve the routine transport, storage, use, or disposal of hazardous materials. Additionally, the proposed project is not located within two miles of a public airport or airport land use plan or private airstrip, and the project site is not located within a City designated Wildfire Hazard Area or Fire Buffer Zone.[17,18] Furthermore, following installation of the proposed pipelines, all roadways would be returned to their existing conditions. Therefore, no long-term impacts would result from operation of the proposed project. Impacts to hazards and hazardous materials would be less than significant.

4.2.7 Hydrology and Water Quality

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, issued by the State Water Resources Control Board. One of the conditions of the General Permit is the development and implementation of a Storm Water Pollution Prevention Plan, which would identify structural and nonstructural Best Management Practices to be implemented during construction. Upon completion of the proposed project, storm and drainage flows would be directed to the existing storm drain system, similar to existing conditions. In addition, LADWP designs and constructs recycled water pipelines in accordance with California Department of Health Services (DHS) regulations and guidelines to provide adequate vertical and horizontal separation from potable water pipelines and potable supply wells.[19] This would minimize the potential for possible travel of recycled water from a pipeline leak or rupture to reach or affect potable supply wells or the water distribution system. All recycled water would be treated to meet or exceed Title 22 of the California Code of Regulations standards before entering the recycled water distribution system. If a break were to occur along a recycled water pipeline, impacts related to water quality standard violations at production wells are not anticipated because the separation distances between the recycled water distribution pipelines and production wells would comply with Title 22 requirements. Storm water quality would be addressed through compliance with regulatory permit requirements and Best Management Practices.

The project site is not located within a 100-year flood zone as shown on a federal Flood Hazard Boundary or Flood Insurance Rate Map.[20] Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Tsunamis and seiches are not considered to be potential hazards to the proposed project, and the portions of the project site

[17] Airnav.com, Airports search. Website: http://www.airnav.com/airports/, accessed July 24, 2014.
[18] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Selected Wildfire Hazard Areas* Map, September 1996.
[19] City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of Water and Power. 2005. *Integrated Resources Plan Draft Environmental Impact Report*. Website: http://www.lacity-irp.org/drafteir.htm, accessed July 24, 2014.
[20] 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 July 24, 2014.

located within City designated hillside areas would be stabilized as necessary during construction, thereby reducing the risk of mudflows. Additionally, the proposed project would not generate substantial additional sources of polluted runoff, and would not deplete groundwater supplies or interfere with groundwater recharge.

Implementation of all applicable water quality requirements, including the preparation of a Storm Water Pollution Prevention Plan, obtaining a General Construction Activity Stormwater Permit and National Pollutant Discharge Elimination System permit, and adhering to the City Hillside Grading Ordinance would ensure that impacts to hydrology and water quality during construction would be less than significant. Operation of the proposed project would be similar to existing conditions; therefore, hydrology and water quality impacts during project operation would be less than significant.

4.2.8 Land Use and Planning - Physical Division of and Established Community/Conflict with a Habitat Conservation Plan or Natural Community Conservation Plan

The proposed project would not physically divide an established community. The alignment of the proposed recycled and potable water pipelines for the Elysian Park WRP would be placed within existing roadways, dirt hiking trails, and previously disturbed areas, with a portion of the potable water pipeline extending along a 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 house and potable water storage tank. The alignment for the Downtown WRP would be located entirely within the existing roadway. Following installation of the pressure regulator station and the proposed pipelines, all roadways would be returned to their existing condition. No streets or sidewalks would be permanently closed as a result of the proposed project, and no separation of uses or disruption of access between land use types would occur. As such, the project would not divide an established community, and no impact would occur.

There are no adopted habitat conversation plans that apply to the areas in which the Elysian Park WRP and Downtown WRP would be located, nor is the proposed project located in or near any natural community conservation plan areas Therefore, the proposed project would not conflict with any such plan. No impact would occur.

4.2.9 Mineral Resources

Portions of the alignment extend within City-designated Mineral Resource Zone 2 Areas, which are areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.[21] Additionally, according to the State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, several wells are known to exist in the vicinity of the pipeline alignments for the Downtown WRP.[22] However, no wells exist within the Elysian Park WRP and no active wells are located within the limits of construction for the Downtown WRP.[23] Additionally, should any future mineral resource be discovered on or near the project site, implementation of the proposed

[21] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Areas Containing Significant Mineral Deposits* Map, September 1996.

[22] State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, DOGGR Online Mapping System. Website: http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx, accessed July 24, 2014.

[23] Ibid.

project would not preclude the mineral's extraction. Therefore, the proposed project would not result in the loss of availability of a locally important mineral resource recovery site, or known mineral resource that would be of value to the region and the residents of the state. No impact would occur.

4.2.10 Noise - Permanent Increase in Ambient Noise Levels/Noise Related to Public Airports and Private Airstrips

Operation of the proposed project would create no new permanent sources of noise. Additionally, following installation of the recycled and potable water pipelines and facilities, the roadways would be returned to their existing conditions. Operational activities would be the same as current levels. Therefore, the proposed project would not create a substantial permanent increase in noise levels above existing ambient levels. No impact would occur.

The nearest airports to the project site are Hawthorne Municipal Airport, which is located approximately 10 miles southwest of the project sites, and Burbank (Bob Hope) Airport, which is located approximately 11.5 miles northwest of the project sites. Airport noise from these airports is not audible at the project site. The proposed project is not located within 10 miles of a private airstrip. In addition, the project site is not located within an airport land use plan. Furthermore, the proposed project would include no occupied facilities that would expose people to excessive noise levels related to aircraft use. Therefore, no impacts related to exposing people residing or working in the project area to excessive noise levels from a public airport or private airstrip would occur.

4.2.11 Population and Housing

The proposed project does not include any residential or commercial land uses and, therefore, would not result in a direct population increase from construction of new homes or businesses. The potable water pipelines and facilities for the Elysian Park WRP would be installed to serve the potable water needs of Elysian Park, and would not increase the capacity of the drinking water system such that other land uses would be served. Additionally, the recycled water pipelines and facilities in both the Elysian Park WRP and the Downtown WRP would serve existing customers in the City. Therefore, the proposed project would not result in indirect population growth.

Within the Elysian Park WRP, the areas surrounding Riverdale Avenue and Blake Avenue, as well as the southeast side of Dorris Place are developed with residential uses; however, construction activities on Riverdale Avenue, Blake Avenue, and Dorris Place would occur entirely within the existing road right-of-way. Additionally, following installation of the recycled water pipeline, the roadway would be restored to its existing condition. All construction for the Downtown WRP would occur in the existing road right-of-way and the roadways would be restored to their existing condition following installation of the pipelines. Therefore, neither the Elysian Park WRP nor the Downtown WRP would require the removal of existing housing. Thus, the development of the proposed project would not result in the displacement of existing housing, and no persons would be displaced. Construction of replacement housing would not be necessary. No impacts to population and housing would occur.

4.2.12 Public Services

As the proposed project would serve existing customers, it would not generate population growth. Furthermore, no new habitable structures would be built as part of the proposed project. Therefore, construction and operation of the proposed project would not require the construction of additional governmental facilities, or expansion of existing facilities.

Installation of the proposed pipeline alignments would require temporary lane closures during the construction period, which could affect response times and emergency access. However, it is not anticipated that full closures of major roadways would be necessary and the operation of existing roadways would be preserved throughout construction. Vehicular access to intersecting streets would be limited during portions of the construction period. However, construction would occur in approximately 90-foot segments and no portion of the roadway would remain closed during the entire construction period. Additionally, it is anticipated that lane closures would be effective and access would be restricted during working hours only and would reopen at the end of each work day. Recessed steel plates would be used to cover any open trenches during non-work hours. Furthermore, LADWP would consult with the Los Angeles Fire Department and the Los Angeles Police Department regarding construction schedules and worksite traffic control and detour plans. Development of such plans and consultation with the Los Angeles Fire Department and the Los Angeles Police Department would ensure that impacts to emergency response times and access during construction would be less than significant.

As stated previously, the proposed project does not include development of any residential uses and would not generate any new permanent residents that would increase the demand for schools, parks, or other public facilities. Impacts to public services would be less than significant.

4.2.13 Recreation

The proposed project does not include development of any residential uses and, thus, would not generate new permanent residents that would increase the demand for recreational facilities. Thus, substantial physical deterioration of these facilities would not occur or be accelerated with implementation of the proposed project. Further, the proposed project would serve existing customers and would not promote or indirectly induce new development that would require the construction or expansion of recreational facilities. No impact would occur.

4.2.14 Transportation and Traffic - Changes in Air Traffic Patterns/Hazards Due to a Design Feature/Emergency Access

The proposed project would not result in a change in air traffic patterns. Construction and operation of the proposed project would not generate air traffic. Further, the proposed project would not include any high-rise structures that could act as a hazard to aircraft navigation. No impact would occur

The proposed project would primarily be constructed within existing roadways. Additionally, a portion of the recycled water pipeline as part of the Elysian Park WRP would be constructed within an approximately 700-foot segment of the Los Angeles River Bike Path. No design changes to the existing roadways or use of roadways would occur. Although construction of the proposed project would require temporary roadway lane and bike path closures and detours, the proposed project does not include any permanent alterations of roadways or the bike path.

Once construction within a segment of roadway or bike path has been completed, these facilities would be returned to their original condition. Therefore, no impact related to an increase in hazards due to a design feature or incompatible uses would occur.

Installation of the pipeline in both the Elysian Park WRP and the Downtown WRP would require temporary lane closures during the construction period, which could have an effect on emergency access. Additionally, emergency services may be needed at a location where access is temporarily blocked by the construction zone. However, it is not anticipated that full closures of major roadways would be necessary and the operation of existing roadways would be preserved throughout construction. Vehicular access to intersecting streets would be limited during portions of the construction period. However, construction would occur in approximate 90-foot segments and no portion of the roadway would remain closed during the entire construction period. Additionally, it is anticipated that lane closures would be effective and access would be restricted during working hours only, and would reopen at the end of each work day. Recessed steel plates would be used to cover any open trenches during non-work hours. Furthermore, LADWP would consult with emergency service providers (e.g., Los Angeles Police Department and Los Angeles Fire Department, etc.) regarding construction schedules and worksite traffic control and detour plans. Development of such plans and consultation with emergency service providers would ensure that impacts related to emergency response and access during construction would be less than significant.

4.2.15 Utilities and Service Systems

As previously discussed, a Storm Water Pollution Prevention Plan and erosion control plan would be prepared for the proposed project that would specify appropriate Best Management Practices to control runoff from the project site. Additionally, any wastewater discharged by the proposed project must comply with National Pollutant Discharge Elimination System requirements. Construction activities would comply with all applicable wastewater treatment requirements of the Regional Water Quality Control Board. All drainage flows would be routed through existing stormwater infrastructure serving the project site and surrounding area. Therefore, impacts to wastewater treatment requirements and stormwater drainage facilities would be less than significant.

As the proposed project would serve existing customers, no increase in the amount of water used or wastewater generated at the project site would occur. No new or expanded water or wastewater treatment facilities would be required due to implementation of the proposed project. Additionally, the Downtown WRP would provide recycled water to Elysian Park and known customers in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles in lieu of potable water supplies. Therefore, additional water supplies would not be needed and the proposed project would have the beneficial impact of offsetting a portion of the City's potable water demand. No impact to water or wastewater treatment facilities, or water supplies would occur.

Construction activities would generate construction waste, such as demolition debris. 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. These measures would minimize the amount of construction debris generated by the proposed project that would need to be disposed of in an area landfill. Any non-recyclable construction waste generated would be disposed of at a landfill approved to accept such materials. No solid waste would be generated with project operation. The proposed project would comply with federal, state, and local statutes and regulations

related to solid waste. All materials would be handled and disposed of in accordance with existing local, state, and federal regulations. Compliance with existing regulations would ensure that impacts to solid waste disposal would be less than significant.

4.3 Cumulative Impacts

According to Section 15355 of the CEQA Guidelines, cumulative impacts refer to:

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

Additionally, Section 15130(a) of the CEQA Guidelines states:

> *"An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable… When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR… An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant …if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact."*

Pursuant to Section 15130(b)(1)(A) of the CEQA Guidelines, a list of past, present, and probable future project producing related or cumulative impacts may be used as the basis of the cumulative impacts analysis. The "list" approach was used for the cumulative impacts discussion in this EIR. The scale or geographic scope of related projects varies for each impact category. For instance, cumulative geology and soils or aesthetics impacts are considered localized, while cumulative transportation and traffic and air quality impacts are considered regional. Table 4-1 includes all of the approved or proposed development projects in a two-mile radius of the project site. The list of development projects is derived from information provided by LADOT.

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
1	LA Trade Tech College Five Year Master Plan	321 W 21st Street	College	21,300 students
2	Northeast Tower (Mixed-Use)	215 W 9th Street	Condominium	210 du
			Retail	9,000 sf
3	Flower/23rd Mixed-Use – The Lorenzo/Orthopaedic Hospital	2300 S Flower Street	Apartment	1,500 du
			Retail	40,000 sf
4	Amazon Project	1133 S Hope Street	Apartment	208 du
			Retail	5,029 sf
5	Mixed-Use	745 S Spring Street	Condominium	247 du
			Retail	10,675 sf
6	11th & Hill Project	1115 S Hill Street	Condominium	172 du
			Restaurant	6,850 sf
7	Warehouse	1843 E 41st Street	Warehouse	643,000 sf
8	8th/Hope/Grand Project	609 W 8th Street	Condominium	225 du
			Hotel	220 rooms
			Retail	30,000 sf
			Restaurant	32,000 sf
9	Condominium	1340 S Olive Street	Condominium	150 du
10	Avant (Mixed-Use)	1340 S Figueroa Street	Apartment	252 du
			Restaurant	11,000 sf
11	Mixed-Use (Glass Tower Project)	1050 S Grand Avenue	Condominium	151 du
			Retail	3,472 sf
			Restaurant	2,200 sf
12	Embassy Tower	848 S Grand Avenue	Condominium	420 du
			Supermarket	385,000 sf
13	Mercy Housing	220 E Washington Boulevard	Apartment	357 du
			Retail	7,750 sf
			Restaurant	7,570 sf
14	LAUSD 9th Street Span K-8	820 S Towne Avenue	Elementary School	100 students
			Middle School	405 students
15	Mixed-Use	2100 S Figueroa Street	Condominium	291 du
			Retail	7,134 sf
16	Self-Serve Car Wash & Retail	4051 S Avalon Boulevard	Retail	3,534 sf
17	Mixed-Use	1500 S Figueroa	Apartment	190 du
			Retail	12,432 sf
18	Olympic & Hill Mixed-Use	301 W Olympic Boulevard	Apartment	300 du
			Retail	14,500 sf
			Restaurant	8,500 sf
19	ISAF Industrial Building	1700 E Martin Luther King Jr. Boulevard	Industrial	480,300 sf
20	Apartment	1027 S Olive Street	Apartment	100 du
21	Onyx Mixed-Use	1306 S Hope Street	Apartment	419 du
			Retail	42,200 sf
22	Mixed-Use	928 S Broadway	Apartment	662 du
			Retail	47,000 sf
			Live-Work	11 du
			Office	34,824 sf
23	G12 Mixed-Use	1200 S Grand Avenue	Apartment	640 du
			Retail	45,000 sf

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
24	Mixed-Use	534 S Main Street	Apartment	160 du
			Retail	18,000 sf
			Restaurant	3,500 sf
25	Mixed-Use	840 S Olive Street	Condominium	303 du
			Retail	1,500 sf
			Restaurant	9,680 sf
26	Mixed-Use	710 S Grand Avenue	Apartment	700 du
			Retail	27,000 sf
			Restaurant	5,000 sf
27	The City Market	1057 S San Pedro Street	Apartment	877 du
			Condominium	68 du
			Hotel	210 room
			Office	294,961 sf
			Retail	224,862 sf
			Cinema	744 sf
28	Mixed-Use	233 W Washington Boulevard	Apartment	160 du
			Retail	24,000 sf
29	Olive Street Project	1001 S Olive Street	Apartment	225 du
			Restaurant	5,000 sf
30	Camden Arts Mixed-Use	1525 E Industrial Street	Apartment	240 du
			Retail	7,165 sf
			Restaurant	4,110 sf
31	Mixed-Use	1000 S Grand Avenue	Apartment	274 du
			Restaurant	12,000 sf
32	Hill Street Mixed-Use	920 S Hill Street	Apartment	216 du
			Retail	3,900 sf
33	Broadway Mixed-Use	955 S Broadway	Apartment	201 du
			Retail	6,000 sf
34	Mixed-Use	801 S Olive Street	Apartment	331 du
			Restaurant	10,000 sf
35	Flower Mixed-Use	1212 S Flower Street	Condominium	730 du
			Retail	10,500 sf
			Office	70,465 sf
36	Olympic & Olive Mixed-Use	960 S Olive Street	Apartment	263 du
			Restaurant	14,500 sf
37	Mixed-Use	820 S Olive Street	Apartment	589 du
			Retail	4,500 sf
38	Mixed-Use	350 S Alameda Street	Apartment	60 du
			Restaurant	3,000 sf
39	Mixed-Use	601 S Main Street	Apartment	432 du
			Retail	28,400 sf
40	Mixed-Use	2051 E 7th Street	Apartment	240 du
			Retail	8,000 sf
			Restaurant	12,000 sf
41	Mixed-Use	1111 S Broadway	Apartment	391 du
			Retail	20,000 sf
			Office	41,140 sf
42	Mixed-Use	1148 S Broadway	Apartment	94 du
			Retail	2,500 sf

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
43	DTLA South Park Site 1	1120 S Grand Avenue	Apartment	461 du
			Retail	8,700 sf
			Hotel	300 room
44	DTLA South Park Site 4	1230 S Olive Street	Apartment	362 du
			Retail	4,000 sf
45	Apartments	1247 S Grand Avenue	Apartment	118 du
			Retail	5,125 sf
46	Mixed-Use	1400 S Figueroa Street	Apartment	106 du
			Retail	4,834 sf
47	FIDM Campus Expansion	939 S Flower Street	Apartment	112 du
			College	1,450 student
48	5th & Olive (Formerly Park Fifth Project)	427 W 5th Street	Apartment	615 du
			Retail	16,309 sf
49	Apartment Project (Figueroa & Adams Student Housing)	2455 S Figueroa Street	Apartment	145 du
50	Mixed-Use	2700 S Figueroa Street	Apartment	171 du
			Retail	22,500 sf
51	Oak Village Residence	902 W Washington Boulevard	Condominium	142 du
52	Wilshire Grand Redevelopment	900 W Wilshire	Mixed-Use	unknown
53	Convention Center Modernization Farmers Field	1110 W 11th Street	Stadium	27,250 seats
			Event Center	245,650 sf
54	Metropolis Mixed-Use	899 S Francisco Street	Condominium	836 du
			Office	988,225 sf
			Hotel	480 room
			Retail	4,600 sf
55	Day Care	3014 S Royal Street	Day Care	114 student
56	Mixed-Use	400 S Broadway	Apartment	430 du
			Retail	10,000 sf
			Bar	5,000 sf
57	LA Coliseum Renovation	3911 S Figueroa Street	Stadium	68,000 seat
58	California African American Museum	600 S State Drive	Museum	77,100 sf
59	South LA Redevelopment	3671 S Vermont Avenue	Apartment	80 du
			Retail	50,000 sf
60	Accelerated Charter Elementary School	107 E Martin Luther King Jr. Boulevard	Elementary School	500 student
61	Rolland Curtis Gardens Mixed-Use	1077 W 38th Street	Apartment	140 du
			Retail	9,000 sf
62	Blossom Plaza	900 N Broadway	Condominium	223 du
			Retail	25,000 sf
			Restaurant	15,000 sf
			Cultural Center	7,000 sf
63	LA Lofts Chinatown	1101 N Main Street	Condominium	300 du
64	Taylor Yard Village (Mixed-Use)	1555 N San Fernando Road	Apartment	164 du
			Condominium	290 du
			Retail	25,000 sf
65	Barlow Hospital Replacement & Master Plan	2000 Stadium Way	Condominium	888 du
			Hospital	56 bed
			Retail	15,000 sf

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
66	Apartment	1185 W Sunset Boulevard	Apartment	210 du
67	Blake Avenue Riverfront	1801 W Blake Avenue	Condominium	142 du
			Retail	4,898 sf
			Restaurant	9,658 sf
68	Pacific Charter Middle School	1371 W 35th Street	Middle School	300 student
69	USC University Park Master Plan	1540 Alcazar Street	University	unknown
70	South LA Redevelopment 4B	1982 W Adams Boulevard	Retail	10,000 sf
			Office	22,000 sf
71	South LA Redevelopment 3A	361 S Vermont Avenue	Apartment	80 du
			Retail	50,000 sf
72	West Adams Office	1999 W Adams Boulevard	Office	75,000 sf
73	Hall of Justice Reuse Project	211 W Temple Street	Office	456,900 sf
74	Ava Little Tokyo	200 S Los Angeles Street	Apartment	570 du
			Condominium	280 du
			Retail	50,000 sf
75	Mixed-Use	662 S Luca Avenue	Condominium	130 du
			Retail	7,037 sf
76	Mixed-Use	1254 W 3rd Street	Apartment	363 du
			Retail	7,740 sf
77	Wilshire Coronado	2525 Wilshire Boulevard	Condominium	160 du
			Retail	7,500 sf
78	Bus Maintenance & Inspection Facility	454 E Commercial Street	Industrial	2 acres
79	Tenten Wilshire Expansion	1027 W Wilshire Boulevard	Condominium	402 du
			Retail	4,728 sf
80	Da Vinci Apartments	327 N Fremont Avenue	Apartment	1,200 du
			Retail	25,000 sf
81	Vibiana Lofts (Mixed-Use)	225 S Los Angeles Street	Condominium	300 du
			Retail	3,400 sf
82	Lucas Avenue & 7th Street Mixed-Use	1135 W 7th Street	Condominium	130 du
			Retail	7,037 sf
83	7th/Witmer Project	1247 W 7th Street	Condominium	186 du
			Retail	6,200 sf
84	One Santa Fe Project	300 S Santa Fe Avenue	Apartment	420 du
			Retail	45,000 sf
			Fast-Food Restaurant	7,500 sf
			Quality Restaurant	7,500 sf
85	Mixed-Use Project	905 E 2nd Street	Condominium	320 du
			Retail	18,712 sf
86	Apartments	715 N Yale Street	Apartment	65 du
87	Bixel & Lucas Project	1102 W 6th Street	Apartment	648 du
			Retail	39,996 sf
88	Mixed-Use	1924 W Temple Street	Apartment	46 du
			Condominium	205 du
			Retail	19,103 sf
89	Office Building	1130 W Wilshire Boulevard	Office	95,847 sf
90	Metro Bus Facility	920 N Vignes Street	Bus Maintenance and Operation	unknown

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
91	Beverly & Lucas Project	1430 W Beverly Boulevard	Apartment	144 du
92	Zen Mixed-Use (Kawada Tower)	250 S Hill Street	Condominium	330 du
			Retail	12,000 sf
93	Medical Office (Good Samaritan)	1245 W Wilshire Boulevard	Medical Office	56,450 sf
94	LAUSD CLASH #12	1211 W Miramar Street	High School	500 student
95	Westlake Theater Apartments	619 S Westlake Avenue	Apartment	52 du
96	Pacific Charter Elementary School	1700 W Pico Boulevard	Elementary School	450 student
97	Mixed-Use	1435 W 3rd Street	Apartment	122 du
			Retail	5,000 sf
98	Grand Avenue (Parcel M-2 Rev)	237 S Grand Avenue	Apartment	412 du
			Condominium	1,648 du
			Retail	449,000 sf
			Office	681,000 sf
99	LA Civic Center Office	150 N Los Angeles Street	Retail	712,500 sf
			Office	35,000 sf
			Day Care	2,500 sf
100	Valencia Project	1501 W Wilshire Boulevard	Apartment	218 du
			Retail	6,000 sf
			Restaurant	1,500 sf
101	Mixed-Use	1329 W 7th Street	Apartment	94 du
			Retail	2,000 sf
102	Charter High School	1552 W Rockwood Street	High School	600 student
103	Santa Fe Freight Yard Redevelopment	950 E 3rd Street	Apartment	635 du
			Retail	30,062 sf
			School	532 student
104	ISAF Retail/Restaurant	201 S Broadway	Retail	27,675 sf
105	1700 W Olympic Hotel	1700 W Olympic Boulevard	Hotel	160 room
106	Mixed-Use	700 W Cesar Chavez Avenue	Apartment	247 du
			Retail	8,000 sf
107	Warehouse/Office/Manufacturing	1115 S Boyle Avenue	Warehouse	294,256 sf
			Office	76,576 sf
			Manufacturing	65,949 sf
108	Boyle Heights Specific Plan	2901 E Olympic Boulevard	Apartment	4,400 sf
			Retail	185,000 sf
			Office	125,000 sf
			Medical Office	25,000 sf
			Day Care	15,000 sf
			Library	15,000 sf
109	Linda Vista Senior Housing & Medical Office	610 S St. Louis Street	Condominium	97 du
			Medical Office	33,000 sf
110	Mixed-Use	3401 E 1st Street	Apartment	49 du
			Retail	10,000 sf
111	Affordable Housing & Assisted Living	2924 W 8th Street	Apartment	37 du
			Assisted Living	48 du
112	Laborers Local 300 Headquarters	2005 W Pico Boulevard	Office	30,300 sf

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
113	Medical Office	2789 W Olympic Boulevard	Medical Office	45,264 sf
			Health Spa	10,600 sf
			Retail	4,000 sf
			Coffee Shop	960 sf
114	Mixed-Use	820 S Hoover Street	Condominium	32 du
			Retail	2,500 sf
115	Chuck E. Cheese	2706 W Wilshire Boulevard	Restaurant	16,452 sf
116	Church	968 S Berendo Street	Church	85,308 sf
117	Mixed-Use	864 S Vermont Avenue	Apartment	411 du
			Retail	43,800 sf
118	Mixed-Use	2850 W 7th Street	Condominium	160 du
			Hotel	40 room
			Retail	3,600 sf
119	Equitas Charter School	2723 W 8th Street	Elementary School	450 student
120	Residential	2929 W Leeward Avenue	Condominium	80 du
121	7-Eleven	301 E Florence Avenue	Retail	2,405 sf
122	LA City College District Health Academy	1704 Zonal Avenue	Community College	675 student
123	1902-1901 Marengo Mixed-Use	1902 E Marengo Street	Retail	4,415 sf
			Fast-Food Restaurant	1,500 sf
			High-Turnover Restaurant	4,500 sf
			Medical Office	16,820 sf
124	SPR-Medical Office & Retail	3303 N Broadway	Office	47,300 sf
125	LA Dodger Stadium the Next 50 Years	1000 W Elysian Park Avenue	Retail	23,750 sf
			Restaurant	38,490 sf
			Museum	35,570 sf
			Office	138,565 sf
126	Condominiums	2600 W Riverside Drive	Condominium	120 du
127	Prop Q & F Public Safety Facilities	Los Angeles Street/Temple Street	Jail	179,000 sf
			Government	30,000 sf
128	Grand Avenue Project	100 S Grand Avenue	Apartment	412 du
			Condominium	1,648 du
			Retail	449,000 sf
			Hotel	275 room
			Government	681,000 sf
129	Mixed-Use	133 E 6th Street	Restaurant	11,018 sf
			Retail	8,927 sf
			Health Club	5,066 sf
130	Center Land	418 S Spring Street	Condominium	96 du
			Retail	10,000 sf
			Hotel	122 room
			Spa	2,090 sf
			Bar	3,526 sf
131	Theater/Restaurant	650 S Spring Street	Theater	40,000 sf
132	2004-CEN-1738	435 E 20th Street	Apartment	143,000 sf
133	Restaurant & Bar	220 W 9th Street	Restaurant	23,000 sf

Table 4-1
Description of Related Projects

No.	Project Name	Location	Land Use	Size[a]
134	Park Fifth	501 S Olive Street	Condominium	900 du
			Retail	19,000 sf
			Restaurant	19,200 sf

a. du = dwelling unit; sf = square feet

Source: KOA Corporation, *Traffic Study for the LADWP Elysian Park-Downtown Water Recycling Projects EIR*, July 2014.

As discussed in Chapter 3.6, Land Use and Planning, the Los Angeles Streetcar Project is proposed to travel primarily on Broadway to serve the following destinations: Historic Broadway; South Park, including L.A. LIVE, Staples Center, LA Convention and Events Center; Bunker Hill, including the Music Center, Walt Disney Concert Hall, the Museum of Contemporary Art, and the Broad Museum; Civic Center, including City Hall and the Cathedral of Our Lady of the Angels; and the Financial Core, including Pershing Square, and the Los Angeles Central Library. The Los Angeles Streetcar Project is currently in the design phase and final alignment and construction schedule are currently unknown. The project site does not include any portion of Broadway in downtown Los Angeles.

The Broadway Streetscape Master Plan is a planning document that provides design guidelines and standards under which future streetscape enhancement projects would be implemented based on the availability of funding. The area comprising the Broadway Streetscape Master Plan spans eight blocks on Broadway from 2nd Street to Olympic Boulevard in downtown Los Angeles. As of this writing, LADOT does not identify any specific development projects proposed under the Broadway Streetscape Master Plan. The project site does not include any portion of Broadway in downtown Los Angeles.

Metro's Regional Connector Project will extend the Metro Gold Line Little Tokyo/Arts District Station to the 7th Street/Metro Center Station, allowing passengers to transfer to Metro Blue, Expo, Red, and Purple Lines, bypassing Union Station. The Metro Regional Connector is intended to improve access to both local and regional destinations through the provision of continuous service between and/or connections to multiple rail lines. As of this writing, initial construction is underway. The project site crosses over the Regional Connector alignment at San Pedro Street and 2nd Street, and at Hope Street and 2nd Street. LADWP is in communication with Metro regarding the proposed project construction to ensure that construction activities for both projects are coordinated.

4.3.1 Aesthetics

The related projects include various mixed-use, residential, commercial, office, and industrial projects that are currently under construction, approved but not built, or proposed for development. The construction period of the proposed project would represent a temporary change to the visual character of the project site and area. However, as previously discussed, only the Elysian Park WRP would include the construction of above-ground structures, which would be located within Elysian Park. The above-ground structures would be constructed in areas that are currently developed with existing similar facilities (i.e., tanks and pump houses). Mitigation measures VIS-A and VIS-B would be implemented to ensure that the design of the new tanks and pumping stations would be consistent with the existing visual character of the project site. Implementation of the mitigation measures would reduce aesthetics impacts to a less than significant level. Additionally, none of the related projects are located within Elysian

Park. Therefore, the proposed project, in conjunction with the related projects, would not result in a cumulatively significant aesthetic impact.

4.3.2 Air Quality

As discussed in Chapter 3.2, Air Quality, the SCAQMD cumulative analysis focuses on whether a specific project would result in a cumulatively considerable contribution of emissions to the region. The proposed project would not exceed the SCAQMD significance thresholds for any criteria pollutants. Therefore, the proposed project would not contribute to a cumulatively considerable air quality impact.

4.3.3 Biological Resources

Any potentially significant impacts resulting from implementation of the related projects to special species, riparian habitats, protected wetlands, migratory wildlife, and local protection of biological resources, particularly during the construction phase, would be assessed on a project-by-project basis. In addition, the related projects are located in a highly developed urban environment that likely does not include substantial habitats for biological resources. The implementation of mitigation measure BIO-A would reduce significant impacts of the proposed project to biological resources to a less than significant level. As with the proposed project, all related projects in the vicinity would be required to comply with applicable state, federal, and local regulations concerning biological resources including implementing mitigation measures as necessary. Therefore, the proposed project, in conjunction with the related projects, would not contribute to a cumulative biological resources impact.

4.3.4 Cultural Resources

Development of the proposed project in conjunction with the related projects would result in the increased potential for encountering historical, archaeological, and paleontological resources in the project vicinity. As discussed in Chapter 3.4, Cultural Resources, two historic resources are identified as overlapping with the Elysian Park WRP and four historic resources were identified as overlapping with the Downtown WRP. Additionally, there is potential to encounter archaeological and paleontological resources during project construction. However, the proposed project would include mitigation measures CR-A through CR-F to reduce potential impacts to cultural resources. Further, as with the proposed project, all related projects in the vicinity would be required to comply with CEQA Section 15064.5. If cultural resources are uncovered during construction activities, construction would cease until the find is analyzed. Therefore, the proposed project would not contribute to a significant cumulative impact related to cultural resources.

4.3.5 Greenhouse Gas Emissions

Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. The analysis presented in Chapter 3.5, Greenhouse Gas Emissions, is also applicable to the cumulative analysis. The proposed project would not generate significant GHG emissions and would be consistent with applicable GHG reduction plans. Therefore, the proposed project would not contribute to a cumulatively considerable GHG impact.

4.3.6 Land Use and Planning

Cumulative land use impacts could occur if other related projects in the vicinity of the project site would result in land use impacts in conjunction with the proposed project. Each of the related projects would be required to either generally conform to the land use designations and zoning for their respective project sites or be subject to findings and conditions based on maintaining general conformance with the land use plans applicable to the area. As such, development of the proposed project and related projects is not anticipated to substantially conflict with the intent of the City's General Plan, or with other land use regulations required to be consistent with the General Plan, such as the LAMC. Conformance with these land use plans and regulations would ensure that related development would not result in the implementation of incompatible land uses. Therefore, the proposed project, in conjunction with the related projects, would not have a cumulative land use impact.

4.3.7 Noise

A majority of the related projects would be located approximately 0.25-mile or further from the project site. Although these related projects may have overlapping construction periods, construction activity for the proposed project would not be concentrated in one location, but would occur along various segments of the proposed alignment. Therefore, noise and vibration generated from construction of the proposed project would occur for a limited duration, affecting the construction zone as the approximately 90 linear feet of pipeline would be installed per day, near related projects. Due to the transient nature of project-related construction and the varied timing of anticipated construction activity, construction noise impacts would not be cumulatively considerable. Additionally, noise and vibration impacts associated with the proposed project would be mitigated to a less than significant level with the implementation of mitigation measures NOISE-A through NOISE-K. There would be no long-term project-level or cumulative noise impacts during operations.

4.3.8 Transportation and Traffic

As discussed in Chapter 3.8, Transportation and Traffic, the proposed project, in conjunction with existing and future background traffic volumes, would result in a significant but temporary construction impact to the study roadway segments during the morning peak hour. Therefore, the proposed project combined with the related projects would contribute to an increase in area roadway volumes. However, implementation of mitigation measure TRANS-A would be implemented to reduce the roadway construction impact and ensure the safety of pedestrians, bicyclists, and transit riders. With mitigation, the temporary project level and cumulative roadway construction impacts would be reduced to a less than significant level. No permanent and cumulative transportation and traffic impact would occur during project operation.

4.4 Significant Irreversible Environmental Changes

Public Resources Code Section 21100(b)(2)(B) and Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which the proposed project's primary and secondary effects would impact the environment and commit nonrenewable resources to uses that future generations will not be able to reverse. Construction of the proposed project would result in the use of nonrenewable resources, including fossil fuels, natural gas, water, and building materials, such as concrete. However, the proposed project involves the installation of potable and recycled water pipelines and associated infrastructure (i.e., pumps and tanks), and does not

represent an uncommon construction project that would use an extraordinary amount of raw material in comparison to other development projects of similar scope and magnitude. As such, the proposed project is not anticipated to consume substantial amounts of energy or use other resources in a wasteful manner. Although the proposed project would result in the consumption of nonrenewable resources, the impact would not be considered significant.

4.5 Growth-Inducing Impacts

Section 15125.2(d) of the CEQA Guidelines requires a discussion of the ways in which a project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) of the CEQA Guidelines states that the EIR should:

> *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are project which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environment effects. Also discuss the characteristics of some project which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potentials does not automatically lead to growth, whether it would be below or in exceedance of a projected level.

The environmental effects of induced growth are secondary or indirect impacts of the proposed project. Secondary effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

As discussed in Chapter 2.0, Project Description, the proposed project would extend the recycled water pipeline network in Elysian Park and in downtown Los Angeles, Exposition Park, Boyle Heights, and southeast Los Angeles, as well as install recycled, non-potable, and potable water facilities in Elysian Park. Implementation of the proposed project would maximize the use of recycled water to replace potable water sources for irrigation and industrial uses to serve existing customers along the proposed alignments for the Elysian and Downtown WRPs. The proposed project would not include the construction of any residential uses or other uses that would result in an increase in the population of the project area. The proposed project would not stimulate significant employment, involve development of new housing, or significantly affect the economy of the region (see Section 4.2.11 above). Therefore, the proposed project would not result in a direct significant growth-inducing impact in the project area.

The potable water pipelines and facilities for the Elysian Park WRP would be installed to serve the existing potable water needs of Elysian Park, and would not increase the capacity of the drinking water system such that other land uses would be served. Additionally, as stated previously, the recycled water pipelines and facilities in both the Elysian Park WRP and the Downtown WRP would serve existing customers in the City. Any proposed new utilities would tie into the existing system in the project vicinity and would not result in an extension of water infrastructure such that new uses could be served. Therefore, the proposed project would not indirectly result in a significant growth-inducing impact.

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CHAPTER 5
ALTERNATIVES TO THE PROPOSED PROJECT

5.1 Overview

Alternatives to the proposed project have been considered in this EIR to explore potential means to mitigate or avoid the significant environmental impacts associated with implementation of the project while still achieving the primary objectives of the project. According to Section 15126.6(a) of the CEQA Guidelines, "an EIR shall describe a range of reasonable alternatives to the proposed project, or to the location of the proposed project, which would feasibly attain most of the basic objectives of the proposed project, but would avoid or substantially lessen any of the significant effects of the proposed project, and evaluate the comparative merits of the alternatives." The CEQA Guidelines state that an EIR should not consider alternatives that are deemed infeasible. Under CEQA, factors other than physical achievability that can determine feasibility are site suitability, economic limitations, availability of infrastructure, General Plan consistency, other plan or regulatory limitations, and jurisdictional boundaries. In addition, according to the CEQA Guidelines, "an EIR need not consider every conceivable alternative to a project." Instead, an EIR should present a reasonable range of feasible alternatives that will support informed decision making and public participation regarding the potential environmental consequences of a project and possible means to address those consequences. An EIR need not consider alternatives whose effects cannot be reasonably ascertained and whose implementation is remote or speculative. However, the alternatives analysis must include an evaluation of the No Project Alternative in accordance with Section 15126.6(e) of the CEQA Guidelines to determine the consequences of not implementing the proposed project or another alternative to the project. Through the identification and evaluation of alternatives, the relative advantages and disadvantages of each alternative compared with the proposed project can be determined.

Impacts of the Proposed Project

The proposed project was found to result in temporary but significant environmental impacts to biological resources, cultural resources, noise, and transportation and traffic from construction activity for the project. Each of these temporary impacts would be reduced to a less than significant level with implementation of mitigation measures. The proposed project was found to result in potentially significant operational environmental impacts to aesthetics and cultural resources regarding the alteration of the visual landscape and setting of Elysian Park. Each of these operational impacts would be reduced to a less than significant level with implementation of mitigation measures. The alternatives presented in this section were considered to provide a range of reasonable options to the proposed project that might address the identified impacts.

Project Objectives

By definition, alternatives to the proposed project must achieve most of the basic project objectives. The purpose of the proposed project is 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 primary project objectives related to this purpose are to:

- Improve the reliability of the City of Los Angeles water supply through increased recycled water use
- Comply with LADWP's 2010 Urban Water Management Plan 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 connection to recycled water for non-potable uses

5.2 Alternatives Considered but Dismissed from Further Analysis

Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among factors that may be used to eliminate alternatives from detailed consideration in the EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, and (3) inability to avoid significant environmental impacts.

Several alternatives developed during the planning process for the proposed project and involving input from interested parties were not considered for further detailed analysis in this EIR because, based on the currently proposed project, the alternatives either did not meet most of the basic project objectives; were deemed to be infeasible; and/or would not substantially lessen the predicted environmental impacts of the proposed project or would result in additional significant impacts not created by the proposed project. Section 15126.6(f)(2) of the CEQA Guidelines requires that an EIR consider alternative locations to the project site. The alternatives, including alternative locations, which were not further considered in detail, are summarized below, including a brief description of the alternative and a determination of its feasibility.

5.2.1 2012 Elysian Park WRP (formerly Phase 1) Alternative

An alternative for the Elysian Park WRP was initially considered that would have involved the construction of only 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 included with the proposed project. 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 the identified 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 proposed project. 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 proposed project would provide the potable water backup supply for the recycled water system.

This alternative would not provide a recycled water storage tank large enough to accommodate identified customers in the area. As such, this alternative would not fully meet the project objectives regarding the construction of necessary infrastructure to convey recycled water to various industrial and irrigation customers in the central Los Angeles area, and regarding the provision of recycled water to some of the City's largest water customers. In addition, this alternative would not have reduced environmental impacts as compared to the proposed project. For these reasons, this alternative was eliminated from further consideration.

5.2.2 2004 Elysian Park WRP Preliminary Route Study Alternative 2

Alternative 2 analyzed in the Preliminary Route Study for the Elysian Park WRP in 2004 included a new 30-inch diameter recycled water pipeline connecting to the existing 30-inch diameter Glendale Reclaimed Line at the intersection of San Fernando Road and Glendale Avenue in the community of Glassell Park within northeast Los Angeles. The recycled water pipeline would have continued southeast along San Fernando Road, and southwest along Fletcher Drive, crossing the Los Angeles River on an existing bridge and extending beneath I-5 to Riverside Drive. The recycled water pipeline would have then extended southeast along Riverside Drive and continued along Stadium Way. From Stadium Way, within the northern portion of Elysian Park, the recycled water pipeline would have extended southeast along a park access road to an area directly north of Elysian Fields where a new recycled water tank was proposed to be constructed. The construction of this alternative was determined to be unnecessarily difficult and would potentially result in great noise and traffic impacts as compared to the proposed project. This alternative would not likely provide a recycled water storage tank large enough to accommodate identified customers in the area. As such, this alternative would not fully meet the project objectives regarding the construction of necessary infrastructure to convey recycled water to various industrial and irrigation customers in the central Los Angeles area, and regarding the provision of recycled water to some of the City's largest water customers. For these reasons, this alternative was eliminated from further consideration.

5.2.3 2004 Elysian Park WRP Preliminary Route Study Alternative 3

Alternative 3 analyzed in the Preliminary Route Study for the Elysian Park WRP in 2004 included a new 30-inch diameter recycled water pipeline connecting to the existing 30-inch diameter Glendale Reclaimed Line at the intersection of San Fernando Road and Glendale Avenue in the community of Glassell Park within northeast Los Angeles. The recycled water pipeline would have continued southeast along San Fernando Road, passing Taylor Yard, and

eventually crossing the Los Angeles River into the northeastern portion of Elysian Park. The recycled water pipeline would have then extended west/northwest along a park access road to an area northwest of Elysian Reservoir where a new recycled water tank was proposed to be constructed. It was determined that this alternative would not meet the minimum elevation requirements of the project to provide adequate pressure for the distribution system it was intended to supply. As such, this alternative was deemed infeasible and eliminated from further consideration.

5.2.4 2013 Downtown WRP (formerly Phase 2) Broadway Alignment Alternative

The Downtown WRP Broadway Alignment Alternative involved constructing approximately 10 miles of new 16-inch recycled water pipeline from the proposed terminus at Mesnagers Street near Los Angeles State Historic Park (also known as the Cornfields Park) to customers located in downtown Los Angeles, Exposition Park, and Boyle Heights. The mainline would have roughly followed Broadway south to Exposition Boulevard. To reach Boyle Heights, the pipeline would have roughly followed 16th Street to Washington Boulevard to Olympic Boulevard. In 2013, this alternative was analyzed as and considered to be the preferred alignment for the Downtown WRP in the Recirculated Draft MND. However, following the close of the public review period for the Recirculated Draft MND, LADWP in coordination with the Los Angeles Streetcar Project, determined that physical and design constraints along a segment of Broadway within the proposed alignment rendered the alignment difficult to implement. As such, this alternative was deemed infeasible and eliminated from further consideration.

5.3 Alternatives Carried Forward for Detailed Analysis

Five alternatives have been carried forward for detailed analysis in this EIR, including the “No Project” alternative, as required by CEQA. Based on the environmental analysis conducted for the proposed project, less than significant impacts were identified for Aesthetics, Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Land Use and Planning, Noise, and Transportation and Traffic.

The alternatives carried forward for detailed analysis in this chapter include:

- No Project Alternative
- Elysian Park WRP – HDD Alternative
- Downtown WRP – Main Street Alignment Alternative
- Downtown WRP – Los Angeles Street Alignment Alternative
- Downtown WRP – Central Avenue Alignment Alternative

Table 5-1 at the end of this chapter provides a comparison of the impacts of the alternatives to the proposed project. In accordance with the CEQA Guidelines Section 15126.6(d), each alternative was evaluated in sufficient detail to determine whether the overall environmental impacts would be less than, similar to, or greater than the corresponding impacts of the proposed project. A discussion of each alternative is provided below.

5.3.1 No Project Alternative

According to the CEQA Guidelines Section 15126.6(e)(3)(b), the No Project Alternative is defined as the "circumstance under which the proposed project does not proceed." The impacts of the No Project Alternative shall be analyzed "by projecting what would reasonably be expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services." The purpose of describing and analyzing the No Project Alternative is "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." Under the No Project Alternative, the existing recycled water pipeline network would not be extended to Elysian Park and downtown Los Angeles. Because this improvement would not be implemented, the use of recycled water would not be maximized to replace potable sources for irrigation and industrial uses. Under the No Project Alternative, future environmental conditions would be unchanged from those that currently exist, which are described in the environmental setting sections of Chapter 3. The No Project Alternative would not meet any of the project objectives.

Construction impacts associated with biological resources, cultural resources, noise, and transportation and traffic would be avoided with the No Project Alternative because no construction activities would occur on the project site under this alternative. The existing use of the project site would continue to function and operate as with existing conditions. No construction activities would occur within the Los Angeles River Bike Path, Elysian Park, and the communities of Elysian Valley, Cypress Park, Chinatown, downtown Los Angeles, Exposition Park, Boyle Heights, or southeast Los Angeles under the No Project Alternative.

Construction of a new recycled water tank and vegetation clearance would not be required, and the visual character of the surrounding areas of Elysian Park would not be diminished. No impacts to native bird species or the movement of native resident or migratory wildlife species would occur as no vegetation clearance would be required. There would be no change to cultural resources because no changes to the character-defining features of Elysian Park would occur under this alternative. Further, the potential for uncovering previously unknown archaeological or paleontological resources would be avoided because excavation would not take place on the project site. Sensitive receptors would not be exposed to construction noise levels in excess of local standards because no construction activities would occur. In addition, temporary roadway traffic detours and bike path detours would not be required to be implemented.

Operational impacts to aesthetics and cultural resources would be avoided because no changes to the project site would occur under the No Project Alternative. No potential permanent changes to aesthetics and cultural resources would occur because the project site would not be altered.

Under the No Project Alternative, the use of recycled water would not be maximized to replace potable sources for irrigation and industrial uses. Further, the No Project Alternative would not achieve any of the objectives of the proposed project.

5.3.2 Elysian Park WRP – HDD Alternative

The Elysian Park WRP – Horizontal Directional Drilling (HDD) Alternative, would be similar to the Elysian Park WRP described under the proposed project, and would contain many 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 proposed project.

Under the Elysian Park WRP – 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 proposed project. 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 the 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 the proposed project, 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 would 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 would include an approximately 400 foot by 200 foot launching area, as well as a pipe lay-down area, which would vary 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 would likely be used to ease drilling and prevent soil within the hole from caving. After a pilot hole would be drilled to the desired design profile and the drill bit would exit on the receiving site, the drill head would be replaced with a back-reamer. The entire drill bit would then be 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 would be pulled into place as the drill reams.

The analysis below includes the evaluation of the Elysian Park WRP – HDD Alternative as compared to the impacts of the Elysian Park WRP (proposed project). Environmental impacts of the Downtown WRP are not included because the Elysian Park WRP and the Downtown WRP are considered to be separate projects for purposes of the Draft EIR.

Aesthetics

Similar to the proposed project, under the Elysian Park WRP – 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 be less than significant under the Elysian Park WRP – 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 Elysian Park WRP – 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 Elysian Park WRP – HDD Alternative. As with the proposed project, implementation of mitigation measures VIS-A and VIS-B would reduce the long-term operational impact related to placement of the new recycled water tank to a less than significant level.

The Elysian Park WRP – HDD Alternative would result in similar aesthetic impacts as the proposed project.

Air Quality

The Elysian Park WRP – HDD Alternative would result in greater air pollutant emissions during construction compared to the proposed project. There would be similar numbers of vehicle trips generated by construction workers traveling to and from the project site, but more truck trips for the disposal of excavated material from tunneling activities. In addition, fugitive dust emissions, which primarily result from excavation activities, would be greater with this alternative due to an increased amount of excavated material. Even with a shorter construction schedule, NO_X emissions would be similar to the proposed project because of the emissions generated by the boring machine during tunneling activities. Therefore, the short-term construction emissions would be greater under the Elysian Park WRP – HDD Alternative than the proposed project. Nonetheless, with compliance with Rule 403 and implementation of construction best management practices, this alternative would not violate air quality standards or contribute to existing or projected air quality violations. The impact would be less than significant.

Similar to the proposed project, the Elysian Park WRP – HDD Alternative would not result in long-term air quality impacts during project operations. The majority of the Elysian Park WRP – HDD Alternative would operate underground. Minimal maintenance activities would be required. As with the proposed project, the impact would be less than significant.

The Elysian Park WRP – HDD Alternative would result in greater impacts to air quality than the proposed project.

Biological Resources

Similar to the proposed project, the implementation of the Elysian Park WRP – HDD Alternative would not result in impacts to sensitive plant species or vegetation communities because the project site does not contain quality habitat for sensitive plant species or sensitive vegetation communities. In addition, no sensitive plant species were observed at the project site during the field survey. Similar to the proposed project, vegetation removal may be required under the Elysian Park WRP – HDD Alternative. If vegetation removal occurs during the nesting/breeding season, a potentially significant impact to migratory birds could occur. With implementation of mitigation measure BIO-A, short-term impacts to nesting migratory birds would be reduced to a less than significant level under the Elysian Park WRP – HDD Alternative.

No special-status plants or wildlife are expected to occur on the project site due to its developed and disturbed nature. Also, no such plants or wildlife were observed during the biological field surveys. Similar to the proposed project, no impacts to special status plant or wildlife species would occur.

The Elysian Park WRP – HDD Alternative would result in similar impacts to biological resources as the proposed project.

Cultural Resources

Similar to the proposed project, under the Elysian Park WRP – HDD Alternative, the implementation of mitigation measures CR-A and CR-B would be required to reduce potentially significant impacts to the Chavez Ravine Arboretum to less than significant levels. The proposed new potable water booster pump would be housed within an existing pump house and would not substantially change the historic character of the site or its surroundings. Implementation of mitigation measures VIS-A and VIS-B would also be required 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 mitigation, significant impacts to the design and placement of the forebay tank, and non-potable and recycled water pumping stations would be reduced to a less than significant.

Similar to the proposed project, the construction activities associated with the Elysian Park WRP – HDD Alternative could potentially uncover Native American cultural resources and buried sites related to historic use of the project area. Therefore, the implementation of mitigation measure CR-D would be required to ensure that significant 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.

Unlike the proposed project, during the construction of the Elysian Park WRP – HDD Alternative, it would be less likely that tunneling activities would encounter historic water conveyance features related to the Los Angeles zanja (irrigation ditch) system because the depth of excavation would be much deeper and the majority of tunneling activity would occur well below the upper ground surface levels where the zanja and the Los Angeles Water Company ditch crosses is known to exist. As discussed above, impacts to any historic street surfaces and archaeological resources would be reduced to a less than significant level through the use of an archaeological monitor during construction of the launching and receiving sites for tunneling activities.

The Elysian Park WRP – HDD Alternative would result in reduced cultural resources impacts compared to the proposed project.

Greenhouse Gas Emissions

The Elysian Park WRP – HDD Alternative would generate greater equipment exhaust and truck trips during construction compared to the proposed project. Nonetheless, GHG emissions generated by the Elysian Park WRP – HDD Alternative would still be substantially lower than the 10,000 metric tons of CO_2e per year quantitative significance threshold.

Similar to the proposed project, over the long-term, the Elysian Park WRP – HDD Alternative would improve the reliability of the City of Los Angeles water supply through increased recycled water use and provide recycled water to some of the City of Los Angeles' largest water customers. This is relevant to GHG emissions because water-related energy use consumes approximately 19 percent of California's electricity. The energy generated to extract, treat, and transport potable water generates significant GHG emissions. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. As a result, the installation of the Elysian Park WRP – HDD Alternative would lead to a reduction in regional energy demand and associated GHG emissions. This would be consistent with all relevant GHG reduction plans, policies, and

regulations (e.g., GREEN LA Plan). Therefore, similar to the proposed project, the Elysian Park WRP – HDD Alternative's impact to consistency with applicable plans, policies, and regulations would be less than significant.

The Elysian Park WRP – HDD Alternative would result in greater impacts to GHG emissions than the proposed project.

Land Use and Planning

Similar to the proposed project, the Elysian Park WRP – HDD Alternative would place the proposed recycled and potable water pipelines within existing roadways, dirt hiking trails, and previously disturbed areas, as well as a portion of an existing bike path, 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 pump house and potable water storage tank. The proposed recycled and potable water pipeline installation and development, as well as 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. This alternative would also be consistent with the LAMC and Final Draft Elysian Park Master Plan. The impact to land use and planning would be less than significant.

The Elysian Park WRP – HDD Alternative would result in similar land use and planning impacts as the proposed project.

Noise

Under the Elysian Park WRP – 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. Noise generated by tunneling activities would exceed 75 dBA at 50 feet, the noise limitation specified in the LAMC. Implementation of mitigation measures NOISE-A through NOISE-J would be required to reduce construction noise levels to a less than significant level. The construction noise impact of the Elysian Park WRP – HDD Alternative would be similar to the proposed project.

Similar to the proposed project, vibration-related mitigation would be required with the construction of the Elysian Park WRP – HDD Alternative. Implementation of this mitigation would ensure that potentially impacted land uses are identified after advanced engineering, and that building damage caused by construction equipment would be determined and fixed. The implementation of mitigation would prevent permanent vibration damage and would reduce significant vibration impacts to a less than significant level.

The Elysian Park WRP – HDD Alternative would result in similar noise and vibration impacts as the proposed project.

Transportation and Traffic

Similar to the proposed project, construction of the Elysian Park WRP – 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 closures of major roadways are anticipated during 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. 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. Similar to the proposed project, the implementation of mitigation measure TRANS-A would reduce these impacts through development of a Traffic Management Plan. Implementation of mitigation measure TRANS-A would also reduce temporary impacts on the Los Angeles River Bike Path. With implementation of mitigation measures short-term construction impacts related to transportation and traffic would be less than significant.

However, compared to the proposed project, traffic impacts would be reduced under the Elysian Park WRP – HDD Alternative because more of the proposed pipeline alignment would be constructed via horizontal directional drilling. Tunneling activities would be located off of roadways, reducing the disruption to traffic within Elysian Park. Therefore, the Elysian Park WRP – HDD Alternative would result in reduced transportation and traffic impacts compared to the proposed project.

Conclusion

The Elysian Park WRP – HDD Alternative would result in reduced impacts during construction as compared with those of the proposed project in the areas of cultural resources and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, land use and planning, and noise. However, the Elysian Park WRP – HDD Alternative would result in greater impacts in the areas of air quality and GHG emissions. The construction phase for this alternative would be shorter than the proposed project. Additionally, due to the construction technique involved, this alternative would be less cost-effective than the proposed project. With the Elysian Park WRP – 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 and repairs. As such, the Elysian Park WRP – HDD Alternative would not meet the following project objective as well as the proposed project: improve the reliability of the City of Los Angeles water supply through increased recycled water use. The Elysian Park WRP – HDD Alternative would not meet all of the project objectives.

5.3.3 Downtown WRP – Main Street Alignment Alternative

The Downtown WRP – Main Street Alignment Alternative involves constructing and operating approximately 84,550 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would be shorter and involve construction of approximately 1,950 linear feet of recycled water pipeline less than the proposed project. This alternative would begin at the termination point of the Los Angeles State Historic Park WRP, which is located on Spring Street at Mesnager Street, approximately 0.5 mile south of Dodger Stadium. The mainline segment of would extend approximately 2,900 feet south on Spring Street from Mesnager Street to College Street, approximately 1,700 feet south on Alameda Street from College Street to Main Street, approximately 19,400 feet south on Main Street from Alameda Street to Broadway Place, approximately 800 feet south on Broadway Place from Main Street to 37th Place, approximately 2,600 feet west on 37th Street from Broadway Place to Figueroa Street, and approximately 2,850 feet west on Exposition Boulevard from Figueroa Street to Vermont Avenue. The mainline segment would terminate near the University of Southern California's main campus.

The Twin Towers Correctional Facilities segment would extend from the mainline segment approximately 350 feet east on Alpine Street from Alameda Street to Main Street, approximately 1,300 feet east on Vignes Street from Main Street to Bauchet Street, and approximately 950 feet east on Bauchet Street terminating at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility.

The LADWP segment would extend from the mainline segment approximately 2,500 feet west on Temple Street from Main Street to Hope Street, approximately 300 feet north on Hill Street from Temple Street terminating at the Los Angeles County Central Heating and Refrigeration Plant, approximately 1,200 feet south on Hope Street from Temple Street to 1st Street, approximately 700 feet west on 1st Street to Dewap Road, and approximately 1,250 feet north on Dewap Road to Temple Street. This segment would terminate at Los Angeles Department of Water and Power.

The Veolia Energy facility segment would extend approximately 1,200 feet south on Hope Street from 1st Street to 3rd Street, terminating at the Veolia Energy facility.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 4,150 feet west on Pico Boulevard from Main Street to L.A. Live Way, and approximately 1,150 feet north on L.A. Live Way to Chick Hearn Court, terminating at the Los Angeles Convention Center and Event Center.

The Dye House segment would extend from the mainline segment approximately 3,900 feet east on 16th Street from Main Street to Griffith Avenue, and approximately 300 feet north on Griffith Avenue to 15th Street, terminating at the Dye House.

The Washington Garment segment would extend approximately 1,100 feet east on 16th Street from Griffith Avenue to Central Avenue, approximately 600 feet south on Central Avenue to 18th Street, and approximately 500 feet east on 18th Street terminating at Washington Garment.

The Exposition Park segment would extend approximately 2,700 feet south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard and approximately 2,700 feet south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard.

The Boyle Heights Mixed Use Project segment would extend approximately 2,500 feet north on Central Avenue from 16th Street to Olympic Boulevard, and approximately 10,250 feet east on Olympic Boulevard to Evergreen Avenue, including a 1,750-foot bridge crossing on Olympic Boulevard. This segment would terminate at a 68.8-acre site proposed to be redeveloped as a mixed-use community located approximately 2 miles southeast of downtown Los Angeles. The Boyle Heights Mixed Use Project site is generally bounded by East 8th Street to the North, Grande Vista Avenue to the east, Olympic Boulevard to the south, and Soto Street to the west.

The South Los Angeles Wetlands Park segment would extend from the mainline segment approximately 2,600 feet east on Jefferson Boulevard from Main Street to San Pedro Street, approximately 8,000 feet south on Avalon Boulevard from Jefferson Boulevard to 54th Street, approximately 1,300 feet west on 42nd Place from Avalon Boulevard to San Pedro Street, terminating at Gilbert Lindsay Community Center Park, approximately 1,300 feet west on 51st Street from Avalon Boulevard to San Pedro Street terminating at South Park, and approximately 1,500 feet west on 54th Street from Avalon Boulevard to San Pedro Street, terminating at South Los Angeles Wetland Park.

The analysis below includes the evaluation of the Downtown WRP – Main Street Alignment Alternative as compared to the impacts of the Downtown WRP (proposed project). Environmental impacts of the Elysian Park WRP are not included because the Elysian Park WRP and the Downtown WRP are considered to be separate projects for purposes of the Draft EIR.

Aesthetics

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative does not involve construction and operation of any permanent above-ground structures. Following the installation of the recycled water pipeline and pressure regulator station, the existing roadways would be returned to their existing condition. Therefore, no impact to scenic vistas or visual character would occur with implementation of this alternative.

The Downtown WRP – Main Street Alignment Alternative would result in similar aesthetic impacts as the proposed project.

Air Quality

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts to construction air quality as compared to the proposed project because this alternative would result involve construction of a shorter alignment. As such, fewer total vehicle trips would be generated by construction workers traveling to and from the proposed alignment. In addition, fugitive dust emissions, which primarily result from trenching activities, would be less with this alternative due to a decrease in the amount of trenching. The short-term construction emissions would be reduced. As with the proposed project, this alternative would not violate air quality standards or contribute to existing or projected air quality violations.

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative would not result in long-term air quality impacts during project operations. The majority of the Downtown WRP – Main Street Alignment Alternative would operate underground. Minimal

maintenance activities would be required. As with the proposed project, the impact would be less than significant.

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts to air quality compared to the proposed project.

Biological Resources

Similar to the proposed project, due to the urban nature of the Downtown WRP – Main Street Alignment Alternative, the majority of birds likely to nest within vegetation or on structures adjacent to the developed alignment would already be tolerant of frequent vehicular and pedestrian presence; indirect impacts to nesting birds are therefore not anticipated. Direct impacts to nesting birds are also not anticipated as the majority of the Downtown WRP – Main Street Alignment Alternative alignment is located within public streets, and the project is not anticipated to require vegetation trimming. Nonetheless, should vegetation trimming be necessary during construction of the Downtown WRP – Main Street Alignment Alternative, mitigation measure BIO-A would be required to ensure that impacts to migratory birds due to vegetation trimming or removal would be less than significant.

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative would be hung below or along the side of the Olympic Boulevard Bridge. Bridges provide nesting habitat for numerous bird species. Implementation of mitigation measure BIO-A would ensure that impacts to birds nesting on the Olympic Boulevard Bridge would be less than significant.

Similar to the proposed project, vegetation located along public streets adjacent to the Downtown WRP – Main Street Alignment Alternative are primarily ornamental and support a variety of species adapted to high levels of disturbance, as indicated by the species observed during the field surveys. However, there are no adjacent large open space areas bordering the Downtown WRP – Main Street Alignment Alternative. Further, no vegetation removal would occur as part of the Downtown WRP – Main Street Alignment Alternative construction. Therefore, the Downtown WRP – Main Street Alignment Alternative does not provide opportunity for wildlife migration, and no impact would occur.

Also similar to the proposed project, no tree removal would occur as part of the Downtown WRP – Main Street Alignment Alternative because all activity would occur within public streets. Trees are located adjacent to, and may overhang, the proposed pipeline alignment. Individual specimens may require trimming to accommodate construction vehicles and equipment. However, trees protected by LA City Ordinances, Heritage Trees, Special Habitat Value Trees, and all other Common Park Trees were not observed in the project area. Additionally, no trees are located adjacent to the proposed site for the pressure regulator station. Therefore, no impact to protected trees would occur with implementation of the Downtown WRP – Main Street Alignment Alternative.

The Downtown WRP – Main Street Alignment Alternative would result in similar impacts to biological resources as the proposed project.

Cultural Resources

Similar to the proposed project, the implementation of the Downtown WRP – Main Street Alignment Alternative would impact the Olympic Boulevard Bridge (LAHCM No. 902), which is a

listed historic resource. While this alternative would not impact the bridge's historical associations, placement of the recycled water pipeline along the side of the bridge would have a visual impact to the architectural elements that exemplify the Beaux-Arts style. Implementation of mitigation measure CR-C and compliance with the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* would be required to reduce impacts to the Olympic Boulevard Bridge to a less than significant level.

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative lies almost entirely within paved public roadways of downtown Los Angeles and surrounding neighborhoods. The cultural resources assessment revealed several areas of archaeological sensitivity within the project area. In particular, there is a possibility for encountering historic archaeological resources, such as historic street surfaces, railroad tracks, and historic water conveyance features, especially those associated with the *zanja* system. In addition, project construction may also unearth buried sites related to prehistoric activities. Specifically, trenching and excavation of the launching and receiving zones could uncover previously recorded resources and unknown resources. Therefore, implementation of mitigation measures CR-D, and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* would be required. With implementation of mitigation, impacts would be reduced to a less than significant level.

Several past projects have encountered portions of features related to the Los Angeles *zanja* system, and in most cases, the segment(s) of the resource was documented and assessed as eligible or presumed eligible for listing in both the National Register of Historic Places and the California Register of Historic Resources. Because the system is large and mostly subsurface, it is not possible to know how intact the entire system remains. Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative has the potential to encounter the features related to the Los Angeles *zanja* system. Therefore, the impact would be significant, and implementation of mitigation measure CR-E and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* would be required. With implementation of mitigation, the impact would be reduced to a less than significant level.

No formal cemeteries or other places of human internment are known to exist within the Downtown WRP – Main Street Alignment Alternative project site. No evidence of human remains was observed on the surface during site surveys of the proposed project. Human remains are not expected to be encountered during construction. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate, including CEQA Guidelines Section 15064.5(e). If human remains are discovered, they would be evaluated by the county coroner as to the nature of the remains. If the remains are determined to be of Native American origin, the Native American Heritage Commission would be contacted and a Most Likely Descendent identified. Compliance with existing regulations would ensure a less than significant impact.

The Downtown WRP – Main Street Alignment Alternative would result in similar impacts to cultural resources as the proposed project.

Greenhouse Gas Emissions

Similar to the proposed project, a majority of the GHG emissions associated with the Downtown WRP – Main Street Alignment Alternative would be generated by construction emissions, including equipment exhaust, truck trips, and worker commute trips. Because this alternative

would construct a shorter pipeline alignment, less equipment exhaust, truck trips, and worker commute trips would occur. As such, the estimated GHG emissions for this alternative would be less than those of the proposed project, as well as less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The impact would be less than significant.

Similar to the proposed project, over the long-term, the Downtown WRP – Main Street Alignment Alternative would improve the reliability of the City of Los Angeles water supply through increased recycled water use and provide recycled water to some of the City of Los Angeles' largest water customers. This is relevant to GHG emissions because water-related energy use consumes approximately 19 percent of the California's electricity. The energy generated to extract, treat, and transport potable water generates significant GHG emissions. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. As a result, the installation of the Downtown WRP – Main Street Alignment Alternative would lead to a reduction in regional energy demand and associated GHG emissions. This would be consistent with all relevant GHG reduction plans, policies, and regulations (e.g., GREEN LA Plan). Therefore, similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative's impact to consistency with applicable plans, policies, and regulations would be less than significant.

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts to GHG emissions than the proposed project.

Land Use and Planning

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative does not include any above-ground structures that would be subject to the development regulations and policies set forth in the City's General Plan or LAMC. No impact to consistency with the General Plan or LAMC would occur with implementation of the Downtown WRP – Main Street Alignment Alternative.

Additionally, similar to the proposed project, no portion of the Downtown WRP – Main Street Alignment Alternative is located within the boundaries of the Los Angeles Streetcar Project or the Broadway Streetscape Master Plan. Thus, this alternative would not directly impact these projects. This alternative crosses over the Regional Connector alignment at the intersections of Main Street and 2nd Street, and Hope Street and 2nd Street. Therefore, similar to the proposed project, construction of this alternative could affect implementation of this transit project. Additionally, construction of this alternative would require temporary lane closures, which would affect traffic circulation in the downtown area and could indirectly impact implementation of the surrounding area projects. As with the proposed project, approximately 90 linear feet of pipeline would be installed per day with this alternative and construction is anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. In addition, a Traffic Management Plan would be prepared in coordination with LADOT to manage construction-related traffic impacts. LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, and the City of Los Angeles Community Development Department. Coordination with such agencies would minimize effects related to overlapping construction schedules. Implementation of the Traffic Management Plan and coordination with

applicable agencies would ensure that impacts to the implementation of surrounding area projects would be less than significant.

The Downtown WRP – Main Street Alignment Alternative would result in similar impacts to land use and planning as the proposed project.

Noise

Similar to the proposed project, land uses near the Downtown WRP – Main Street Alignment Alternative would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would likely exceed 75 dBA at 50 feet. Therefore, without mitigation measures NOISE-A through NOISE-H, this alternative would result in a significant noise impact related to temporary and periodic construction activity. However, due to the reduced length of the pipeline alignment with this alternative, the significant noise impact may be less intense as compared to the proposed project.

Similar to the proposed project, advanced engineering has not been completed for the Downtown WRP – Main Street Alignment Alternative, and it is likely that construction equipment would operate within 15 feet of structures at certain locations (e.g., densely developed Main Street). As such, this alternative would also result in a significant impact from vibration during construction. However, due to the reduced length of the pipeline alignment with this alternative, the significant vibration impact may be less intense as compared to the proposed project. Nonetheless, the implementation of mitigation measure NOISE-K would be required to reduce this impact to a less than significant level.

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts to noise and vibration than the proposed project.

Transportation and Traffic

With the construction of the proposed project, 23 of the 25 roadway segments would operate at LOS E or F during the morning peak hour. As construction-related lane closures would not occur during the evening peak hour, 7 roadway segments would continue to operate at LOS E or F during this peak hour, the same number as under the future without project conditions. Since the Downtown WRP – Main Street Alignment Alternative would include similar roadways segments as the proposed project, impacts would likely be similar. However, the Downtown WRP – Main Street Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts.

Similar to the proposed project, during construction of the Downtown WRP – Main Street Alignment Alternative, temporary traffic lane closures would affect driveway access, use of on-street parking, and traffic circulation in the downtown area. Additionally, construction of this alternative would temporarily constrict roadway capacity. Existing on-street parking areas along the proposed alignment would be utilized as travel lanes to minimize traffic lane closures, as necessary. Directional capacity would also be considered in roadway closure planning where work area placement is flexible. Nonetheless, construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. 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 segment would be short-

term and temporary. For the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary during the morning peak hour. However, the Downtown WRP – Main Street Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts. Implementation of mitigation measure TRANS-A would be required to reduce the roadway construction impact to a less than significant level.

Downtown WRP – Main Street Alignment Alternative traffic impacts would occur during construction activities only. No traffic impacts would occur during operation of this alternative because the pipeline would be located below ground. The County of Los Angeles Congestion Management Program level of significance thresholds are not intended to be applied to construction activities. As such, this alternative would not exceed the significant impact thresholds defined by the County's Congestion Management Program. The Downtown WRP – Main Street Alignment Alternative would not generate any new measurable and regular vehicle trips during project operation, and no impact would occur, similar to the proposed project.

Similar to the proposed project, the Downtown WRP – Main Street Alignment Alternative includes a Class III bicycle route along Main Street between Jefferson Boulevard and Martin Luther King Jr. Boulevard. Prior to construction, LADWP would be required to coordinate with LADOT regarding the closure of this segment of the bicycle route and providing continued public access to the adjacent portions of the bike route that would not be temporarily closed during construction. Once construction is completed, the bicycle route would be returned to its original condition. With implementation of mitigation measure TRANS-A, the temporary construction impact to this bicycle route would be reduced to a less than significant level.

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 routes in the project area: Stadium Way, Riverside Drive, Spring Street, Figueroa Street, San Pedro Street, Pico Boulevard, 9th Street/Olympic Boulevard, Main Street, 37th Street, and Exposition Boulevard. If bikeways are provided prior to project construction, it is likely that the Downtown WRP – Main Street Alignment Alternative would include the closure of these lanes. As a result, construction activities would potentially create unsafe conditions for bicyclists under restricted capacity conditions, as discussed above. Implementation of mitigation measure TRANS-A would be required to reduce temporary construction impacts to proposed bicycle routes to a less than significant level should they be constructed prior to construction of the proposed recycled water pipeline alignment along that route.

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts to transportation and traffic compared to the proposed project.

Conclusion

The Downtown WRP – Main Street Alignment Alternative would result in reduced impacts during construction as compared with those of the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. The construction phase for this alternative would be shorter in duration because a shorter pipeline alignment would be constructed. However, implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult. As such, the Downtown WRP – Main Street

Alignment Alternative would not meet the following project objective as well as the proposed project: 1) construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area, and 2) provide recycled water to some of the City's largest water customers, and other industrial and irrigation customers in the central Los Angeles area. The Downtown WRP – Main Street Alignment Alternative would not meet all of the project objectives.

5.3.4 Downtown WRP – Los Angeles Street Alignment Alternative

The Downtown WRP – Los Angeles Street Alignment Alternative would involve constructing and operating approximately 85,550 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would be shorter and involve construction of approximately 950 linear feet of recycled water pipeline less than the proposed project. This alternative would begin at the termination point of the Los Angeles State Historic Park WRP, which is located on Spring Street at Mesnager Street, approximately 0.5 miles south of Dodger Stadium. The mainline segment of the Downtown WRP – Los Angeles Street Alignment Alternative would extend approximately 2,900 feet south on Spring Street from Mesnager Street to College Street, approximately 2,650 feet south on Alameda Street from College Street to Los Angeles Street, approximately 11,400 feet south on Los Angeles Street from Alameda Street to 16th Street, approximately 400 feet west on 16th Street to Main Street, approximately 7,200 feet south on Main Street to Broadway Place, approximately 800 feet south on Broadway Place from Main Street to 37th Place, approximately 2,600 feet west on 37th Street from Broadway Place to Figueroa Street, and approximately 2,850 feet west on Exposition Boulevard from Figueroa Street to Vermont Avenue. The mainline segment would terminate near University of Southern California's main campus.

The Twin Towers Correctional Facilities segment would extend from the mainline segment approximately 350 feet east on Alpine Street from Alameda Street to Main Street, approximately 1,300 feet east on Vignes Street from Main Street to Bauchet Street, and approximately 950 feet east on Bauchet Street terminating at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility.

The LADWP segment would extend from the mainline segment approximately 2,900 feet west on Temple Street from Los Angeles Street to Hope Street, approximately 300 feet north on Hill Street from Temple Street terminating at the Los Angeles County Central Heating and Refrigeration Plant, approximately 1,200 feet south on Hope Street from Temple Street to 1st Street, approximately 700 feet west on 1st Street to Dewap Road, and approximately 1,250 feet north on Dewap Road to Temple Street. This segment would terminate at LADWP.

The Veolia Energy facility segment would extend approximately 1,200 feet south on Hope Street from 1st Street to 3rd Street terminating at the Veolia Energy facility.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 4,550 feet west on Pico Boulevard from Los Angeles Street to L.A. Live Way, and approximately 1,150 feet north on L.A. Live Way to Chick Hearn Court terminating at the Los Angeles Convention Center and Event Center.

The Dye House segment would extend from the mainline segment approximately 3,550 feet east on 16th Street from Los Angeles Street to Griffith Avenue, and approximately 300 feet north on Griffith Avenue to 15th Street terminating at the Dye House.

The Washington Garment segment would extend approximately 1,100 feet east on 16th Street from Griffith Avenue to Central Avenue, approximately 600 feet south on Central Avenue to 18th Street, and approximately 500 feet east on 18th Street terminating at Washington Garment.

The Exposition Park segment would extend approximately 2,700 feet south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard and approximately 2,700 feet south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard.

The Boyle Heights Mixed Use Project segment would extend approximately 2,500 feet north on Central Avenue from 16th Street to Olympic Boulevard, and approximately 10,250 feet east on Olympic Boulevard to Evergreen Avenue, including a 1,750-foot-long bridge crossing on Olympic Boulevard. This segment would terminate at a 68.8-acre site proposed to be redeveloped as a mixed-use community located approximately 2 miles southeast of downtown Los Angeles. The Boyle Heights Mixed Use Project site is generally bounded by East 8th Street to the North, Grande Vista Avenue to the east, Olympic Boulevard to the south, and Soto Street to the west.

The South Los Angeles Wetlands Park segment would extend from the mainline segment approximately 2,600 feet east on Jefferson Boulevard from Main Street to San Pedro Street, approximately 8,000 feet south on Avalon Boulevard from Jefferson Boulevard to 54th Street, approximately 1,300 feet west on 42nd Place from Avalon Boulevard to San Pedro Street terminating at Gilbert Lindsay Community Center Park, approximately 1,300 feet west on 51st Street from Avalon Boulevard to San Pedro Street terminating at South Park, and approximately 1,500 feet west on 54th Street from Avalon Boulevard to San Pedro Street terminating at South Los Angeles Wetland Park.

The analysis below includes the evaluation of the Downtown WRP – Los Angeles Street Alignment Alternative as compared to the impacts of the Downtown WRP (proposed project). Environmental impacts of the Elysian Park WRP are not included because the Elysian Park WRP and the Downtown WRP are considered to be separate projects for purposes of the Draft EIR.

Aesthetics

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative would not involve construction and operation of any permanent above-ground structures. Following the installation of the recycled water pipeline and pressure regulator station, roadways would be returned to their existing condition. Therefore, no impact to scenic vistas or visual character would occur with implementation of this alternative.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in similar impacts to aesthetics as the proposed project.

Air Quality

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts to construction air quality as compared to the proposed project because this alternative would construct a shorter pipeline alignment. As a result, fewer vehicle trips would be generated by construction workers traveling to and from the project site. In addition, fugitive dust emissions, which primarily result from trenching activities, would be reduced under this

alternative as a result of the shorter pipeline alignment. Therefore, the short-term construction emissions would be reduced. This alternative would not violate air quality standards or contribute to existing or projected air quality violations, and the impact would be less than significant.

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative would not result in long-term air quality impacts during project operations. The majority of the Downtown WRP – Los Angeles Street Alignment Alternative would operate underground. Minimal maintenance activities would be required. As with the proposed project, the impact would be less than significant.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts to air quality compared to the proposed project.

Biological Resources

Similar to the proposed project, due to the urban nature of the Downtown WRP – Los Angeles Street Alignment Alternative, the majority of birds likely to nest within vegetation or on structures adjacent to the developed alignment would already be tolerant of frequent vehicular and pedestrian presence; indirect impacts to nesting birds are therefore not anticipated. Direct impacts to nesting birds are also not anticipated as the majority of the Downtown WRP – Los Angeles Street Alignment Alternative alignment is located within public streets, and it is not anticipated to require vegetation trimming. Nonetheless, should vegetation trimming be necessary during construction of the Downtown WRP – Los Angeles Street Alignment Alternative, mitigation measure BIO-A would be required to ensure that impacts to migratory birds due to vegetation trimming or removal would be less than significant.

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative would be hung below or along the side of the Olympic Boulevard Bridge. Bridges provide nesting habitat for numerous bird species. Implementation of mitigation measure BIO-A would ensure that impacts to birds nesting on the Olympic Boulevard Bridge would be less than significant.

Similar to the proposed project, vegetation located along public streets adjacent to the Downtown WRP – Los Angeles Street Alignment Alternative are primarily ornamental and support a variety of species adapted to high levels of disturbance, as indicated by the species observed during the field surveys. However, there are no adjacent large open space areas bordering the Downtown WRP – Los Angeles Street Alignment Alternative. Further, no vegetation removal would occur as part of the Downtown WRP – Los Angeles Street Alignment Alternative construction. Therefore, the Downtown WRP – Los Angeles Street Alignment Alternative does not provide opportunity for wildlife migration, and no impact would occur.

Similar to the proposed project, no tree removal would occur as part of the Downtown WRP – Los Angeles Street Alignment Alternative because all activity would occur within public streets. Trees are located adjacent to, and may overhang, the proposed pipeline alignment. Individual specimens may require trimming to accommodate construction vehicles and equipment. However, trees protected by LA City Ordinances, Heritage Trees, Special Habitat Value Trees, and all other Common Park Trees were not observed in the project area. Additionally, no trees are located adjacent to the proposed site for the pressure regulator station. Therefore, no impact to protected trees would occur with implementation of the Downtown WRP – Los Angeles Street Alignment Alternative.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in similar impacts to biological resources as the proposed project.

Cultural Resources

Similar to the proposed project, the implementation of the Downtown WRP – Los Angeles Street Alignment Alternative would impact the Olympic Boulevard Bridge (LAHCM No. 902), which is a listed historic resource. While this alternative would not impact the bridge's historical associations, placement of the recycled water pipeline along the side of the bridge would have a visual impact to the architectural elements that exemplify the Beaux-Arts style. Implementation of mitigation measure CR-C and compliance with the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* would be required to reduce impacts to the Olympic Boulevard Bridge to a less than significant level.

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative lies almost entirely within paved public roadways of downtown Los Angeles and surrounding neighborhoods. The cultural resources assessment revealed several areas of archaeological sensitivity within the project area. In particular, there is a possibility for encountering historic archaeological resources, such as historic street surfaces, railroad tracks, and historic water conveyance features, especially those associated with the *zanja* system. In addition, project construction may also unearth buried sites related to prehistoric activities. Specifically, trenching and excavation of the launching and receiving zones could uncover previously recorded resources and unknown resources. Therefore, implementation of mitigation measure CR-D and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* would be required. With implementation of mitigation, impacts would be reduced to a less than significant level.

Several past projects have encountered portions of features related to the Los Angeles *zanja* system, and in most cases, the segment(s) of the resource was documented and assessed as eligible or presumed eligible for listing in both the National Register of Historic Places and the California Register of Historic Resources. Because the system is large and mostly subsurface, it is not possible to know how intact the entire system remains. Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative has the potential to encounter the features related to the Los Angeles *zanja* system. Therefore, the impact would be significant, and implementation of mitigation measure CR-E and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* would be required. With implementation of mitigation, the impact would be reduced to a less than significant level.

No formal cemeteries or other places of human internment are known to exist within the Downtown WRP – Los Angeles Street Alignment Alternative project site. No evidence of human remains was observed on the surface during site surveys of the proposed project. Human remains are not expected to be encountered during construction. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate, including CEQA Guidelines Section 15064.5(e). If human remains are discovered, they would be evaluated by the county coroner as to the nature of the remains. If the remains are determined to be of Native American origin, the Native American Heritage Commission would be contacted and a Most Likely Descendent identified. Compliance with existing regulations would ensure a less than significant impact.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in similar impacts to cultural resources as the proposed project.

Greenhouse Gas Emissions

Similar to the proposed project, a majority of the GHG emissions associated with the Downtown WRP – Los Angeles Street Alignment Alternative would be generated by construction emissions, including equipment exhaust, truck trips, and worker commute trips. Because this alternative would construct a shorter pipeline alignment, less equipment exhaust, truck trips, and worker commute trips would occur. As such, the estimated GHG emissions for this alternative would be less than those of the proposed project, as well as less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The impact would be less than significant.

Similar to the proposed project, over the long-term, the Downtown WRP – Los Angeles Street Alignment Alternative would improve the reliability of the City of Los Angeles water supply through increased recycled water use and provide recycled water to some of the City of Los Angeles' largest water customers. This is relevant to GHG emissions because water-related energy use consumes approximately 19 percent of the California's electricity. The energy generated to extract, treat, and transport potable water generates significant GHG emissions. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. As a result, the installation of the Downtown WRP – Los Angeles Street Alignment Alternative would lead to a reduction in regional energy demand and associated GHG emissions. This would be consistent with all relevant GHG reduction plans, policies, and regulations (e.g., GREEN LA Plan). Therefore, similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative's impact to consistency with applicable plans, policies, and regulations would be less than significant.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts to GHG emissions than the proposed project.

Land Use and Planning

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative does not include any above-ground structures that would be subject to the development regulations and policies set forth in the City's General Plan or LAMC. No impact to consistency with the General Plan or LAMC c would occur with implementation of the Downtown WRP – Los Angeles Street Alignment Alternative.

Additionally, similar to the proposed project, no portion of the Downtown WRP – Los Angeles Street Alignment Alternative is located within the boundaries of the Los Angeles Streetcar Project or the Broadway Streetscape Master Plan. Thus, this alternative would not directly impact these projects. This alternative crosses over the Regional Connector alignment at the intersections of Los Angeles Street and 2nd Street, and Hope Street and 2nd Street. Therefore, similar to the proposed project, construction of this alternative could affect implementation of this transit project. Additionally, construction of this alternative would require temporary lane closures, which would affect traffic circulation in the downtown area and could indirectly impact implementation of the surrounding area projects. As with the proposed project, approximately 90 linear feet of pipeline would be installed per day with this alternative and construction is

anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. In addition, a Traffic Management Plan would be prepared in coordination with LADOT to manage construction-related traffic impacts. LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, and the City of Los Angeles Community Development Department. Coordination with such agencies would minimize effects related to overlapping construction schedules. Implementation of the Traffic Management Plan and coordination with applicable agencies would ensure that impacts to the implementation of surrounding area projects would be less than significant.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in similar impacts to land use and planning as the proposed project.

Noise

Similar to the proposed project, land uses near the Downtown WRP – Los Angeles Street Alignment Alternative would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would likely exceed 75 dBA at 50 feet. Therefore, without mitigation, this alternative would result in a significant noise impact related to temporary and periodic construction activity. However, because a shorter pipeline alignment would be constructed under this alternative, the significant noise impact may be less intense as compared to the proposed project. Nonetheless, the implementation of mitigation measures NOISE-A through NOISE-H would be required to reduce this impact to a less than significant level.

Similar to the proposed project, advanced engineering has not been completed for the Downtown WRP – Los Angeles Street Alignment Alternative, and it is likely that construction equipment would operate within 15 feet of structures at certain locations (e.g., densely developed Main Street). As such, this alternative would also result in a significant impact from vibration during construction. However, because a shorter pipeline alignment would be constructed under this alternative, the significant vibration impact may be less intense as compared to the proposed project. Nonetheless, the implementation of mitigation measure NOISE-K would be required to reduce this impact to a less than significant level.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts to noise and vibration compared to the proposed project.

Transportation and Traffic

With the construction of the proposed project, 23 of the 25 roadway segments would operate at LOS E or F during the morning peak hour. As construction-related lane closures would not occur during the evening peak hour, 7 roadway segments would continue to operate at LOS E or F during this peak hour, the same number as under the future without project conditions. Since the Downtown WRP – Los Angeles Street Alignment Alternative would involve construction along similar roadways segments as the proposed project, the impacts would likely be similar. However, the Downtown WRP – Los Angeles Street Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts.

Similar to the proposed project, during construction of the Downtown WRP – Los Angeles Street Alignment Alternative, temporary traffic lane closures would affect driveway access, use

of on-street parking, and traffic circulation in the downtown area. Additionally, construction of this alternative would temporarily constrict roadway capacity. Existing on-street parking areas along the proposed alignments would be utilized as travel lanes to minimize traffic lane closures, as necessary. Directional capacity would also be considered in roadway closure planning where work area placement is flexible. Nonetheless, construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. 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 segment would be short-term and temporary. For the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary during the morning peak hour. However, the Downtown WRP – Los Angeles Street Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts. Implementation of mitigation measure TRANS-A would be required to reduce the roadway construction impact to a less than significant level.

Downtown WRP – Los Angeles Street Alignment Alternative traffic impacts would occur during construction activities only. No traffic impacts would occur during operation of this alternative. The County of Los Angeles Congestion Management Program level of significance thresholds are not intended to be applied to construction activities. As such, this alternative would not exceed the significant impact thresholds defined by the County's Congestion Management Program. The Downtown WRP – Los Angeles Street Alignment Alternative would not generate any new measurable and regular vehicle trips during project operation, and no impact would occur.

Similar to the proposed project, the Downtown WRP – Los Angeles Street Alignment Alternative has a Class III bicycle route within the area along Main Street between Jefferson Boulevard and Martin Luther King Jr. Boulevard. Detour signs would need to be posted to route bicyclists to adjacent parallel roadways during construction within this area. Prior to construction, LADWP would be required to coordinate with LADOT regarding the closure of this segment of the bicycle route and providing continued public access to the adjacent portions of the bike route that would not be temporarily closed during construction. Once construction is completed, the bicycle route would be returned to its original condition. With implementation of mitigation measure TRANS-A, the temporary construction impact to this bicycle route would be reduced to a less than significant level.

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 routes in the project area: Stadium Way, Riverside Drive, Spring Street, Figueroa Street, San Pedro Street, Pico Boulevard, 9th Street/Olympic Boulevard, Main Street, 37th Street, and Exposition Boulevard. If bikeways are provided prior to project construction, it is likely that the Downtown WRP – Los Angeles Street Alignment Alternative would include the closure of these lanes. As a result, construction activities would potentially create unsafe conditions for bicyclists under restricted capacity conditions similar to the discussion in the paragraph above. Implementation of mitigation measure TRANS-A would be required to reduce temporary construction impacts to proposed bicycle routes to a less than significant level should they be constructed prior to construction of the proposed recycled water pipeline alignment along that route.

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts to transportation and traffic compared to the proposed project.

Conclusion

The Downtown WRP – Los Angeles Street Alignment Alternative would result in reduced impacts during construction compared to the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. The construction phase for this alternative would be shorter in duration because a shorter pipeline alignment would be constructed. Similar to the proposed project, no new land uses would be introduced to the project site. However, the implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult. As such, the Downtown WRP – Los Angeles Street Alignment Alternative would not meet the following project objective as well as the proposed project: 1) construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area, and 2) provide recycled water to some of the City's largest water customers, and other industrial and irrigation customers in the central Los Angeles area. The Downtown WRP – Los Angeles Street Alignment Alternative would not meet all of the project objectives.

5.3.5 Downtown WRP – Central Avenue Alignment Alternative

The Downtown WRP – Central Avenue Alignment Alternative would involve constructing and operating approximately 85,450 linear feet (approximately 16 miles) of new 16-inch recycled water pipeline. This alternative would involve construction of approximately 1,050 linear feet of recycled water pipeline less than to the proposed project. This alternative would begin at the termination point of the Los Angeles State Historic Park WRP, which is located on Spring Street at Mesnager Street, approximately 0.5 mile south of Dodger Stadium. The mainline segment of the Downtown WRP would extend approximately 2,900 feet south on Spring Street from Mesnager Street to College Street, approximately 5,350 feet south on Alameda Street from College Street to 1st Street, approximately 350 feet west on 1st Street to Central Avenue, approximately 9,150 feet south on Central Avenue to 16th Street, approximately 2,550 feet west on 16th Street to San Pedro Street, approximately 6,050 feet south on San Pedro Street to Jefferson Boulevard, approximately 2,600 feet west on Jefferson Boulevard to Main Street, approximately 900 feet south on Main Street to Broadway Place, approximately 800 feet south on Broadway Place from Main Street to 37th Place, approximately 2,600 feet west on 37th Street from Broadway Place to Figueroa Street, and approximately 2,850 feet west on Exposition Boulevard from Figueroa Street to Vermont Avenue. The mainline segment would terminate near the University of Southern California's main campus.

The Twin Towers Correctional Facilities segment would extend from the mainline segment approximately 350 feet east on Alpine Street from Alameda Street to Main Street, approximately 1,300 feet east on Vignes Street from Main Street to Bauchet Street, and approximately 950 feet east on Bauchet Street terminating at the Los Angeles County Sheriff's Department Twin Towers Correctional Facility.

The Los Angeles Department of Water and Power segment would extend from the mainline segment approximately 4,100 feet west on Temple Street from Alameda Street to Hope Street, approximately 300 feet north on Hill Street from Temple Street terminating at the Los Angeles County Central Heating and Refrigeration Plant, approximately 1,200 feet south on Hope Street from Temple Street to 1st Street, approximately 700 feet west on 1st Street to Dewap Road,

and approximately 1,250 feet north on Dewap Road to Temple Street. It would terminate at Los Angeles Department of Water and Power.

The Veolia Energy facility segment would extend approximately 1,200 feet south on Hope Street from 1st Street to 3rd Street terminating at the Veolia Energy facility.

The Los Angeles Convention Center and Event Center segment would extend from the mainline segment approximately 1,200 feet north on San Pedro Street from 16th Street to Pico Boulevard, approximately 6,500 feet west on Pico Boulevard to L.A. Live Way, and approximately 1,150 feet north on L.A. Live Way to Chick Hearn Court terminating at the Los Angeles Convention Center and Event Center.

The Dye House segment would extend from the mainline segment approximately 300 feet north on Griffith Avenue from 16th Street to 15th Street terminating at the Dye House.

The Washington Garment segment would extend from the mainline segment approximately 600 feet south on Central Avenue from 16th Street to 18th Street, and approximately 500 feet east on 18th Street terminating at Washington Garment.

The Exposition Park segment would extend approximately 2,700 feet south on Bill Robertson Lane from Exposition Boulevard to Martin Luther King Jr Boulevard and approximately 2,700 feet south on Figueroa Street from Exposition Boulevard to Martin Luther King Jr Boulevard.

The Boyle Heights Mixed Use Project segment would extend from the mainline segment approximately 10,250 feet east on Olympic Boulevard from Central Avenue to Evergreen Avenue, including a 1,750-foot bridge crossing on Olympic Boulevard. It would terminate at a 68.8 acre site proposed to be redeveloped as a mixed-use community located approximately 2 miles southeast of downtown Los Angeles. The Boyle Heights Mixed Use Project site is generally bounded by East 8th Street to the North, Grande Vista Avenue to the east, Olympic Boulevard to the south, and Soto Street to the west.

The South Los Angeles Wetlands Park segment would extend from the mainline segment approximately 8,000 feet south on Avalon Boulevard from Jefferson Boulevard to 54th Street, approximately 1,300 feet west on 42nd Place from Avalon Boulevard to San Pedro Street terminating at Gilbert Lindsay Community Center Park, approximately 1,300 feet west on 51st Street from Avalon Boulevard to San Pedro Street terminating at South Park, and approximately 1,500 feet west on 54th Street from Avalon Boulevard to San Pedro Street terminating at South Los Angeles Wetland Park.

The analysis below includes the evaluation of the Downtown WRP – Central Avenue Alignment Alternative as compared to the impacts of the Downtown WRP (proposed project). Environmental impacts of the Elysian Park WRP are not included because the Elysian Park WRP and the Downtown WRP are considered to be separate projects for purposes of the Draft EIR.

Aesthetics

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative would not involve construction and operation of any permanent above-ground structures. Following the installation of the recycled water pipeline and pressure regulator station, the

existing roadways would be returned to their original condition. Therefore, no impact to scenic vistas or visual character would occur with implementation of this alternative, and the impact would be the same as the proposed project.

The Downtown WRP – Central Avenue Alignment Alternative would result in similar impacts to aesthetics as the proposed project.

Air Quality

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts to construction air quality compared to the proposed project because this alternative would construct a shorter pipeline alignment. As a result, reduced vehicle trips would be generated by construction workers traveling to and from the proposed alignment. In addition, fugitive dust emissions, which primarily result from trenching activities, would be reduced under this alternative because of the shorter pipeline alignment. Therefore, short-term construction emissions would be reduced. As with the proposed project, this alternative would not violate air quality standards or contribute to existing or projected air quality violations.

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative would not result in long-term air quality impacts during project operations. The majority of the Downtown WRP – Main Street Alignment Alternative would operate underground. Minimal maintenance activities would be required. As with the proposed project, the impact would be less than significant.

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts to air quality compared to the proposed project.

Biological Resources

Similar to the proposed project, due to the urban nature of the Downtown WRP – Central Avenue Alignment Alternative, the majority of birds likely to nest within vegetation or on structures adjacent to the developed alignment would already be tolerant of frequent vehicular and pedestrian presence; indirect impacts to nesting birds are therefore not anticipated. Direct impacts to nesting birds are also not anticipated as the majority of the Downtown WRP – Central Avenue Alignment Alternative alignment is located within public streets, and the project is not anticipated to require vegetation trimming. Nonetheless, should vegetation trimming be necessary during construction of the Downtown WRP – Central Avenue Alignment Alternative, mitigation measure BIO-A would be required to ensure that impacts to migratory birds due to vegetation trimming or removal would be less than significant.

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative would be hung below or along the side of the Olympic Boulevard Bridge. Bridges provide nesting habitat for numerous bird species. Implementation of mitigation measure BIO-A would ensure that impacts to birds nesting on the Olympic Boulevard Bridge would be less than significant.

Similar to the proposed project, vegetation located along public streets adjacent to the Downtown WRP – Central Avenue Alignment Alternative are primarily ornamental and support a variety of species adapted to high levels of disturbance, as indicated by the species observed during the field surveys. However, there are no adjacent large open space areas bordering the

Downtown WRP – Central Avenue Alignment Alternative. Further, no vegetation removal would occur as part of the Downtown WRP – Central Avenue Alignment Alternative construction. Therefore, the Downtown WRP – Central Avenue Alignment Alternative does not provide opportunity for wildlife migration, and no impact would occur.

Additionally, similar to the proposed project, no tree removal would occur as part of the Downtown WRP – Central Avenue Alignment Alternative because all activity would occur within public streets. Trees are located adjacent to, and may overhang, the proposed pipeline alignment. Individual specimens may require trimming to accommodate construction vehicles and equipment. However, trees protected by LA City Ordinances, Heritage Trees, Special Habitat Value Trees, and all other Common Park Trees were not observed in the project area. Additionally, no trees are located adjacent to the proposed site for the pressure regulator station. Therefore, no impact to protected trees would occur with implementation of the Downtown WRP – Central Avenue Alignment Alternative.

The Downtown WRP – Central Avenue Alignment Alternative would result in similar impacts to biological resources as the proposed project.

Cultural Resources

Similar to the proposed project, the implementation of the Downtown WRP – Central Avenue Alignment Alternative would impact the Olympic Boulevard Bridge (LAHCM No. 902), which is a listed historic resource. While this alternative would not impact the bridge's historical associations, placement of the recycled water pipeline along the side of the bridge would have a visual impact to the architectural elements that exemplify the Beaux-Arts style. Implementation of mitigation measure CR-C and compliance with the *Historic Property Treatment Plan for the Elysian Park-Downtown WRP* would be required to reduce impacts to the Olympic Boulevard Bridge to a less than significant level.

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative lies almost entirely within paved public roadways of downtown Los Angeles and surrounding neighborhoods. The cultural resources assessment revealed several areas of archaeological sensitivity within the project area. In particular, there is a possibility for encountering historic archaeological resources, such as historic street surfaces, railroad tracks, and historic water conveyance features, especially those associated with the *zanja* system. In addition, project construction may also unearth buried sites related to prehistoric activities. Specifically, trenching and excavation of the launching and receiving zones could uncover previously recorded resources and unknown resources. Therefore, implementation of mitigation measure CR-D and compliance with the *Discovery and Treatment Plan for the Elysian Park–Downtown WRP* would be required. With implementation of mitigation, impacts would be reduced to a less than significant level.

Several past projects have encountered portions of features related to the Los Angeles *zanja* system, and in most cases, the segment(s) of the resource was documented and assessed as eligible or presumed eligible for listing in both the National Register of Historic Places and the California Register of Historic Resources. Because the system is large and mostly subsurface, it is not possible to know how intact the entire system remains. Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative has the potential to encounter the features related to the Los Angeles *zanja* system. Therefore, the impact would be significant, and implementation of mitigation measure CR-E and compliance with the *Discovery and*

Treatment Plan for the Elysian Park–Downtown WRP would be required. With implementation of mitigation, the impact would be reduced to a less than significant level.

No formal cemeteries or other places of human internment are known to exist within the Downtown WRP – Central Avenue Alignment Alternative project site. No evidence of human remains was observed on the surface during site surveys of the proposed project. Human remains are not expected to be encountered during construction. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate, including CEQA Guidelines Section 15064.5(e). If human remains are discovered, they would be evaluated by the county coroner as to the nature of the remains. If the remains are determined to be of Native American origin, the Native American Heritage Commission would be contacted and a Most Likely Descendent identified. Compliance with existing regulations would ensure a less than significant impact.

The Downtown WRP – Central Avenue Alignment Alternative would result in similar impacts to cultural resources as the proposed project.

Greenhouse Gas Emissions

Similar to the proposed project, a majority of the GHG emissions associated with the Downtown WRP – Central Avenue Alignment Alternative would be generated by construction emissions, including equipment exhaust, truck trips, and worker commute trips. Because this alternative would construct a shorter pipeline alignment, less equipment exhaust, truck trips, and worker commute trips would occur. As such, the estimated GHG emissions for this alternative would be less than those of the proposed project, as well as less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The impact would be less than significant.

Similar to the proposed project, over the long-term, the Downtown WRP – Central Avenue Alignment Alternative would improve the reliability of the City of Los Angeles water supply through increased recycled water use and provide recycled water to some of the City of Los Angeles' largest water customers. This is relevant to GHG emissions because water-related energy use consumes approximately 19 percent of the California's electricity. The energy generated to extract, treat, and transport potable water generates significant GHG emissions. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. As a result, the installation of the Downtown WRP – Central Avenue Alignment Alternative would lead to a reduction in regional energy demand and associated GHG emissions. This would be consistent with all relevant GHG reduction plans, policies, and regulations (e.g., GREEN LA Plan). Therefore, similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative's impact to consistency with applicable plans, policies, and regulations would be less than significant.

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts to GHG emissions compared to the proposed project.

Land Use and Planning

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative does not include any above-ground structures that would be subject to the development regulations and policies set forth in the City's General Plan or LAMC. No impact to consistency

with the General Plan or LAMC would occur with implementation of the Downtown WRP – Central Avenue Alignment Alternative.

Additionally, similar to the proposed project, no portion of the Downtown WRP – Central Avenue Alignment Alternative is located within the boundaries of the Los Angeles Streetcar Project or the Broadway Streetscape Master Plan. Thus, this alternative would not directly impact these projects. This alternative crosses over the Regional Connector alignment at the intersections of Central Avenue and 1st Street, and Hope Street and 2nd Street. Therefore, similar to the proposed project, construction of this alternative could affect implementation of this transit project. Additionally, construction of this alternative would require temporary lane closures, which would affect traffic circulation in the downtown area and could indirectly impact implementation of the surrounding area projects. As with the proposed project, approximately 90 linear feet of pipeline would be installed per day with this alternative and construction is anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. In addition, a Traffic Management Plan would be prepared in coordination with LADOT to manage construction-related traffic impacts. LADWP would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including but not limited to LADOT, Metro, the City of Los Angeles Department of Public Works, Bureau of Engineering, and the City of Los Angeles Community Development Department. Coordination with such agencies would minimize effects related to overlapping construction schedules. Implementation of the Traffic Management Plan and coordination with applicable agencies would ensure that impacts to the implementation of surrounding area projects would be less than significant.

The Downtown WRP – Central Avenue Alignment Alternative would result in similar impacts to land use and planning as the proposed project.

Noise

Similar to the proposed project, land uses near the Downtown WRP – Central Avenue Alignment Alternative would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would likely exceed 75 dBA at 50 feet. Therefore, without mitigation, this alternative would result in a significant noise impact related to temporary and periodic construction activity. However, because a shorter pipeline alignment would be constructed under this alternative, the significant noise impact may be less intense compared to the proposed project. Nonetheless, implementation of mitigation measures NOISE-A through NOISE-H would be required to reduce this impact to a less than significant level.

Similar to the proposed project, advanced engineering has not been completed for the Downtown WRP – Central Avenue Alignment Alternative, and it is likely that construction equipment would operate within 15 feet of structures at certain locations (e.g., densely developed Main Street). As such, this alternative would also result in a significant impact from vibration during construction. However, because a shorter pipeline alignment would be constructed under this alternative, the significant vibration impact may be less intense as compared to the proposed project. Nonetheless, implementation of mitigation measure NOISE-K would be required to reduce this impact to a less than significant level.

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts to noise and vibration compared to the proposed project.

Transportation and Traffic

With the construction of the proposed project, 23 of the 25 roadway segments would operate at LOS E or F during the morning peak hour. As construction-related lane closures would not occur during the evening peak hour, 7 roadway segments would continue to operate at LOS E or F during this peak hour, the same number as under the future without project conditions. Since the Downtown WRP – Central Avenue Alignment Alternative would include similar roadways segments as the proposed project, impacts would likely be similar. However, the Downtown WRP – Central Avenue Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts.

Similar to the proposed project, during construction of the Downtown WRP – Central Avenue Alignment Alternative, temporary traffic lane closures would affect driveway access, use of on-street parking, and traffic circulation in the downtown area. Additionally, construction of this alternative would temporarily constrict roadway capacity. Existing on-street parking areas along the proposed alignments would be utilized as travel lanes to minimize traffic lane closures, as necessary. Directional capacity would also be considered in roadway closure planning where work area placement is flexible. Nonetheless, construction would cause a traffic nuisance on a block by block basis as the pipeline is being installed. 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 segment would be short-term and temporary. For the purposes of a conservative impact analysis, construction impacts to traffic would be considered significant but temporary during the morning peak hour. However, the Downtown WRP – Central Avenue Alignment Alternative would construct a shorter pipeline alignment, which may result in reduced traffic impacts. Nonetheless, implementation of mitigation measure TRANS-A would be required to reduce the roadway construction impact to a less than significant level.

Downtown WRP – Central Avenue Alignment Alternative traffic impacts would occur during construction activities only. No traffic impacts would occur during operation of this alternative. The County of Los Angeles Congestion Management Program level of significance thresholds are not intended to be applied to construction activities. As such, this alternative would not exceed the significant impact thresholds defined by the County's Congestion Management Program. The Downtown WRP – Central Avenue Alignment Alternative would not generate any new measurable and regular vehicle trips during project operation, and no impact would occur.

Similar to the proposed project, the Downtown WRP – Central Avenue Alignment Alternative has a Class III bicycle route within the area along Main Street between Jefferson Boulevard and Martin Luther King Jr. Boulevard. Detour signs would need to be posted to route bicyclists to adjacent parallel roadways during construction within this area. Prior to construction, LADWP would be required to coordinate with LADOT regarding the closure of this segment of the bicycle route and providing continued public access to the adjacent portions of the bike route that would not be temporarily closed during construction. Once construction is completed, the bicycle route would be returned to its original condition. With implementation of mitigation measure TRANS-A, the temporary construction impact to this bicycle route would be reduced to a less than significant level.

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 routes in the project area: Stadium Way, Riverside Drive, Spring Street, Figueroa Street, San Pedro Street, Pico

Boulevard, 9th Street/Olympic Boulevard, Main Street, 37th Street, and Exposition Boulevard. If bikeways are provided prior to project construction, it is likely that the Downtown WRP – Central Avenue Alignment Alternative would include the closure of these lanes. As a result, construction activities would potentially create unsafe conditions for bicyclists under restricted capacity conditions similar to the discussion in the paragraph above. Implementation of mitigation measure TRANS-A would be required to reduce temporary construction impacts to proposed bicycle routes to a less than significant level should they be constructed prior to construction of the proposed recycled water pipeline alignment along that route.

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts to transportation and traffic than the proposed project.

Conclusion

The Downtown WRP – Central Avenue Alignment Alternative would result in reduced impacts during construction compared to the proposed project in the areas of air quality, GHG emissions, noise, and transportation and traffic. This alternative would result in similar impacts as the proposed project in the areas of aesthetics, biological resources, cultural resources, and land use and planning. The construction phase for this alternative would be shorter in duration because a shorter pipeline alignment would be constructed. Similar to the proposed project, no new land uses would be introduced to the project site. However, the implementation of this alternative would result in additional substructure conflicts as compared to the proposed project. As a result, although this alternative would be feasible to construct, the construction process may be difficult. As such, the Downtown WRP – Central Avenue Alignment Alternative would not meet the following project objectives as well as the proposed project: 1) construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area, and 2) provide recycled water to some of the City's largest water customers, and other industrial and irrigation customers in the central Los Angeles area. The Downtown WRP – Central Avenue Alignment Alternative would not meet all of the project objectives.

5.4 Environmentally Superior Alternative

In accordance with Section 15126.6(e)(2) of the CEQA Guidelines, an EIR shall identify an environmentally superior alternative among the alternatives, including the proposed project. The No Project Alternative would not meet any of the project objectives because this alternative would not increase recycled water use. The Elysian Park WRP – HDD Alternative would result in some reduced environmental impacts, however, the tunneling construction technique may not be cost-effective and repairs to the tunnel would be difficult. Although the Elysian Park WRP – HDD Alternative would meet the project objectives, this alternative would result in greater environmental impacts. The three alignment alternatives considered for the Downtown WRP (Main Street, Los Angeles Street, and Central Avenue) would reduce impacts in the areas of air quality, GHG emissions, noise, and transportation and traffic. However, additional substructure conflicts would occur with the three alignment alternatives. As a result, although the three alignment alternatives would be feasible to construct, the construction process may be difficult. As such, the three alignment alternatives would not meet the following project objectives as well as the proposed project: 1) construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the central Los Angeles Area, and 2) provide recycled water to some of the City's largest water customers, and other industrial and irrigation customers in the central Los Angeles area. These alternatives would not meet all of the project

objectives. As such, the proposed project is determined to be the environmentally superior alternative. Table 5-1 provides a comparison of the impacts of the alternatives to the proposed project.

Table 5-1 Comparison of Impacts for the Proposed Project and the Alternatives

Impact Area	Proposed Project	No Project Alternative	Elysian Park WRP – HDD Alternative	Downtown WRP – Main Street Alignment Alternative	Downtown WRP – Los Angeles Street Alignment Alternative	Downtown WRP – Central Avenue Alignment Alternative
Aesthetics						
VIS-1: The proposed project would not have a substantial adverse effect on a scenic vista.	Less than significant	No Impact (Less)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
VIS-2: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Similar)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
Air Quality						
AIR-1: The proposed project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.	Less than significant	No Impact (Less)	Less than significant (Greater)	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
AIR-2: The proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is classified as nonattainment under the National Ambient Air Quality Standards or California Ambient Air Quality Standards. The proposed project would not exceed any of the SCAQMD project-level significance thresholds for air quality.	Less than significant	No Impact (Less)	Less than significant (Greater)	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. Off-road equipment used during construction of the proposed project would generate diesel particulate matter. However, these emissions would occur only during construction. Sensitive receptors would not be exposed to concentrations exceeding the applicable thresholds.	Less than significant	No Impact (Less)	Less than significant (Greater)	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
Biological Resources						
BIO-1: The proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate,	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation	Less than significant with mitigation	Less than significant with mitigation	Less than significant with mitigation

Impact Area	Proposed Project	No Project Alternative	Elysian Park WRP – HDD Alternative	Downtown WRP – Main Street Alignment Alternative	Downtown WRP – Los Angeles Street Alignment Alternative	Downtown WRP – Central Avenue Alignment Alternative
sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service. Vegetation removal during construction could affect migratory birds.			(Similar)	(Similar)	(Similar)	(Similar)
BIO-2: The proposed project would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)
BIO-3: The proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant	No Impact (Less)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
Cultural Resources						
CR-1: The proposed project would cause a substantial adverse change in the significance of a historical resource.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)
CR-2: The proposed project may potentially cause a substantial adverse change in the significance of an archaeological resource.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)
CR-3: The proposed project may potentially directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)
CR-4: The proposed project may potentially disturb human remains, including those interred outside of formal cemeteries.	Less than significant	No Impact (Less)	Less than significant (Less)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)

Impact Area	Proposed Project	No Project Alternative	Elysian Park WRP – HDD Alternative	Downtown WRP – Main Street Alignment Alternative	Downtown WRP – Los Angeles Street Alignment Alternative	Downtown WRP – Central Avenue Alignment Alternative
Greenhouse Gas Emissions						
GHG-1: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No Impact (Less)	Less than significant (Greater)	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
GHG-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No Impact (Less)	Less than significant (Greater)	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
Land Use and Planning						
LUP-1: The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No Impact (Less)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
Noise/Vibration						
NOISE-1: Construction of the proposed project would expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Greater)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
NOISE-2: Construction of the proposed project would expose persons to or generate excessive groundborne vibration levels.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
NOISE-3: Construction of the proposed project would result in a temporary increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Greater)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)

Impact Area	Proposed Project	No Project Alternative	Elysian Park WRP – HDD Alternative	Downtown WRP – Main Street Alignment Alternative	Downtown WRP – Los Angeles Street Alignment Alternative	Downtown WRP – Central Avenue Alignment Alternative
Transportation/Traffic						
TRANS-1: The proposed project would conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system on study street segments during construction.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
TRANS-2: The proposed project would not conflict with an applicable congestion management program.	No Impact	No Impact (Less)	No Impact (Similar)	No Impact (Similar)	No Impact (Similar)	No Impact (Similar)
TRANS-3: The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; however, construction of the proposed project could decrease the performance or safety of such facilities during the construction period.	Less than significant with mitigation	No Impact (Less)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)

Notes: Less: Impact is lower in magnitude than the impact of the proposed project
Similar: Impact is similar in magnitude to impact of the proposed project
Greater: Impact is greater in magnitude than the impact of the proposed project

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CHAPTER 6
ACRONYMS AND ABBREVIATIONS

AFY	acre-feet per year
AQMP	Air Quality Management Plan
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Los Angeles
CMP	congestion management program
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
dB	decibel
dBA	a-weighted decibel
DHS	California Department of Health Services
EIR	Environmental Impact Report
FTA	Federal Transit Administration
GHG	greenhouse gas
gpm	gallons per minute
HFC	hydrofluorocarbon
I-5	Interstate 5, Golden State Freeway
I-10	Interstate 10, Santa Monica Freeway
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAHCM	Los Angeles Historic-Cultural Monument

LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LARAP	City of Los Angeles Department of Recreation and Parks
L_{eq}	Equivalent Noise Level
LOS	level of service
LST	Localized Significance Threshold
Metro	Los Angeles County Metropolitan Transportation Authority
MG	million gallons
$\mu g/m^3$	micrograms per cubic meter
MND	Mitigated Negative Declaration
MOU	memorandum of understanding
mph	miles per hour
MWD	Metropolitan Water District
N	nitrogen
NO	nitric oxide
N_2O	nitrous oxide
NO_x	nitrogen oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NRHP	National Register of Historic Places
O	oxygen
O_3	ozone
Pb	lead
PFC	perfluorocarbon
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter 10 microns in diameter or less
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
ROG	reactive organic gas
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SO_x	sulfur oxide

SR 110	State Route 110, Pasadena Freeway
TAC	toxic air contaminant
TMP	Traffic Management Plan
US 101	U.S. Highway 101, Hollywood Freeway
USC	University of Southern California
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
V/C	volume-to-capacity ratio
VOC	volatile organic compound
WRP	water recycling project

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CHAPTER 7
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